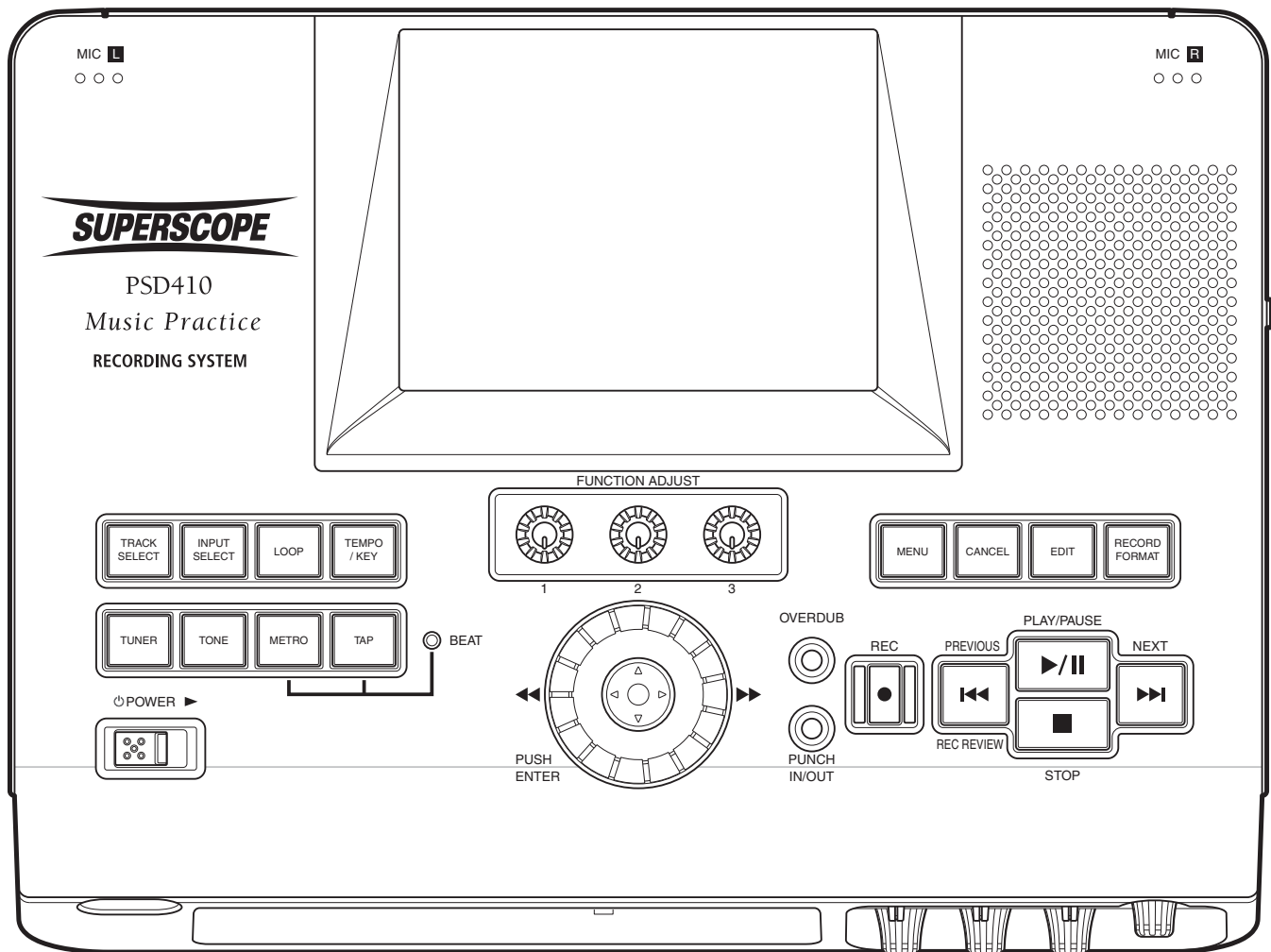



PSD410


Music Practice and Digital Recording System

User Manual





CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOC ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

NOTE TO CATV SYSTEM INSTALLER:

This reminder is provided to call the CATV (Cable-TV) system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe B conforme à la norme NMB-003 du Canada.

SD Logo is a trademark. microSD Logo is a trademark.

Important Safety Instructions

READ BEFORE OPERATING EQUIPMENT

This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. Read instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with dry cloth.
6. Do not use this apparatus near water.
7. To ventilate the unit, do not install it in a rack or bookshelf, and note the following: Do not insert objects beneath the unit. Do not block ventilation slots at the top of the unit. Do not place anything about 1 meter above the top panel. Make a space of about 8" (20 cm) around the unit.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



Additional Safety Information!

- This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- When the switch is in the OFF position, the apparatus isn't completely switched-off from the MAINS.

WARNINGS

Do not expose the equipment to rain or moisture.

Do not remove the cover from the equipment.

No naked flame sources, such as lighted candles, should be placed on the equipment.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration.

Do not place heavy items on the unit.

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not handle the plug with wet hands. This can cause electric shock.









Do not let metal objects fall inside the unit.



Do not let liquids get into the unit.

Do not spray insecticides onto or into the unit.

Do not attempt to repair this unit by yourself.

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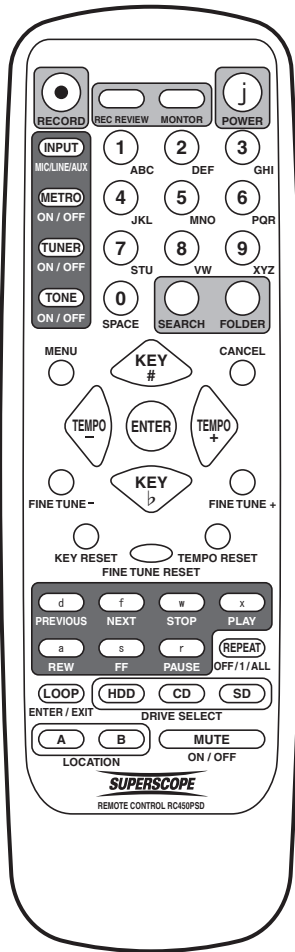
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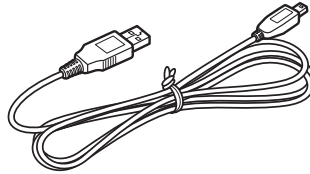
Supplied Accessories

Infrared (IR) Remote

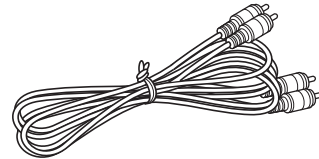


Micro SD Card
Mini SD Card Adapter
SD Card Adapter

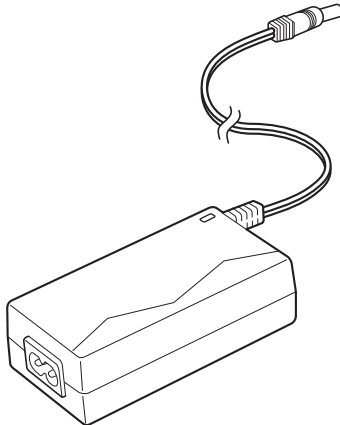
USB Cable



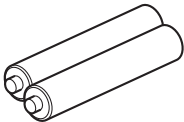
RCA Patch Cables



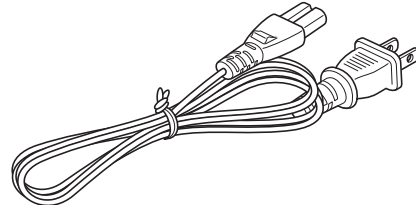
AC Adapter



AAA Batteries



AC Power Cord



The following items (not pictured) are also in the box:

- Instruction Manual on CD-ROM (PDF format)
- Quick Start Guide (printed)

■ Introduction

Thank you for purchasing the Superscope PSD410 Recording System.

Were you looking for a high-quality, portable recorder? A music practice and transcription tool? If either factor is important to you, we're confident you'll find the PSD410 is an immensely powerful and versatile audio system. Here are just a few of the PSD410's features:

General Features

- 3.5-inch liquid crystal color display for easy navigation of all features.
- Record more than 6 hours with eight nickel metal hydride AA batteries (or 4 hours with alkaline batteries).
- USB connection for transferring audio files to and from a computer.
- Stereo internal microphones.
- Stereo XLR combo microphone jacks.
- 48V phantom power.

Recording Features

- Record WAV or MP3 files to SD card or to external USB storage.
- Layer audio with the Overdub feature.
- Re-record portions of audio with the Punch In/Out feature.
- Edit file information or recorded audio (Trim, Divide, etc.).

Music Practice Features

- Change the key of a song without affecting tempo (+/- one octave in half steps or finer increments).
- Change the tempo of a song without affecting musical pitch (-75% to +50%).
- Create new versions of audio files in different keys and tempos.
- Seamlessly loop different sections of audio material for practice or transcription.
- Reduce lead vocals from stereo recordings.
- Rehearse with the built-in metronome.
- Tune your instrument with the 440Hz tone or chromatic tuner.

Package Contents

- One Superscope PSD410 Recorder.
- One AC adapter (DA450PSD).
- One micro SD card (with micro-mini adapter).
- One infrared wireless remote controller (RC450PSD).
- 2-AAA type batteries (for remote control).
- One USB cable.
- One RCA stereo audio system cable.
- One instruction manual on CD-ROM.
- One Quick Start Guide (printed).

■ Preparations Before Use

AC Adapter Connection

Connect the power output plug of the adapter to the DC IN jack of the recorder. Connect the AC Power cord to the household AC power receptacle.

AC Adapter Safety

Only use the AC adapter that is provided with the recorder. Use of other adapters may result in damage to the recorder and invalidate the warranty.

Using Batteries

The recorder is designed for use with 8 "AA" size Alkaline, Nickel-Cadmium (Ni-Cad) or Nickel-Metal Hydride (Ni-MH) batteries.

The recorder DOES NOT allow for charging of rechargeable batteries. If you use rechargeable batteries, you must use an external battery charger (see battery charger manufacturer instructions for operation and safe use).

The battery capacity monitoring is different for alkaline batteries and Ni-Cad/Ni-MH batteries. Please select the correct battery type you are using from the [System Settings menu](#) of the recorder.

To operate the recorder with battery power, install batteries into the recorder as follows:

1. Remove the battery cover from the rear side of the recorder.
2. Insert the batteries into the battery compartment, making sure to align the positive (+) and negative (-) end of each battery according to the polarity diagram shown inside the compartment.
3. Re-attach the battery cover to the rear side of the recorder.

Safety Cautions When Handling Batteries

To avoid leakage, overheating, fire and rupturing, always follow the points below when using batteries with the recorder.

- Electrolyte leakage or corrosion may occur if batteries are kept inside the recorder for prolonged

periods of time. Remove batteries prior to prolonged storage of the recorder.

- When installing batteries into the recorder, make sure the batteries are installed with the proper polarity shown inside the battery compartment of the recorder.
- Do not attempt to recharge non-rechargeable batteries.
- Do not install old/exhausted batteries into the recorder. Dispose of old batteries properly.
- Do not mix the types (Alkaline, Ni-Cad or Ni-MH) or voltages of batteries.

Remote Controller Notes

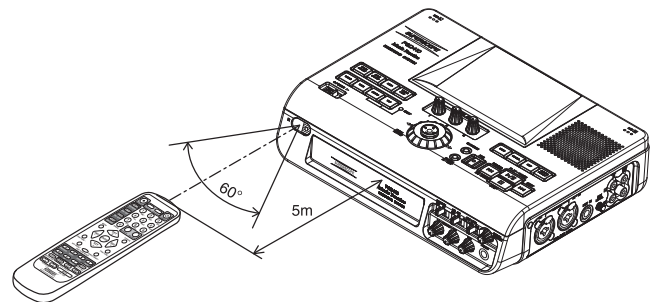
The remote controller may not work if the infrared receiver is exposed to direct sunlight.

The remote controller will not work when there is an obstacle between the wireless remote controller and the infrared receiver.

Please be careful when using the remote controller near other equipment that responds to infrared signals.

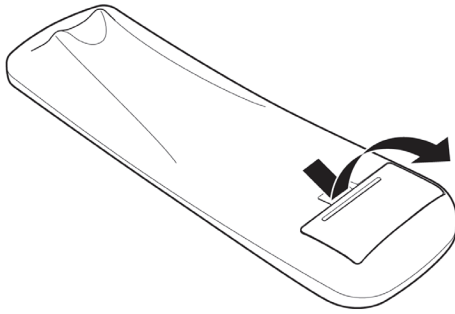
Please do not place objects on the remote controller. If an object resting on the remote continuously depresses a button, battery power will drain.

The remote controller will work within a range of 5m and 60 degrees right or left of the IR receiver, as indicated by the following image:

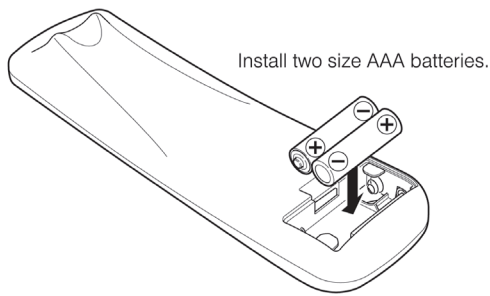


Remote Controller Battery Installation

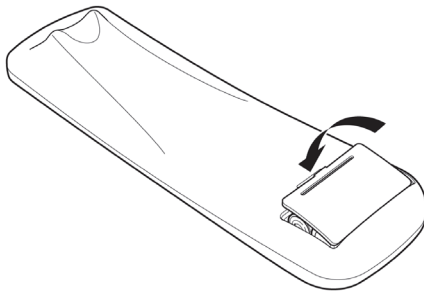
Place 2-AAA batteries (included) inside the wireless remote controller before it is used. Replace batteries by removing the battery cover as shown:



Always match the polarity of the 2-AAA batteries with the polarity indication inside the battery compartment.



Close the battery cover as shown:



With improper battery use, batteries may rupture, leak, and cause corrosion. Please read the following guidelines carefully:

If the remote controller is not in use for a long period of time (more than one month), remove the batteries. Please do not mix old batteries and new batteries together.

Please match the polarity of the battery (+/-) with the polarity indication on the remote controller.

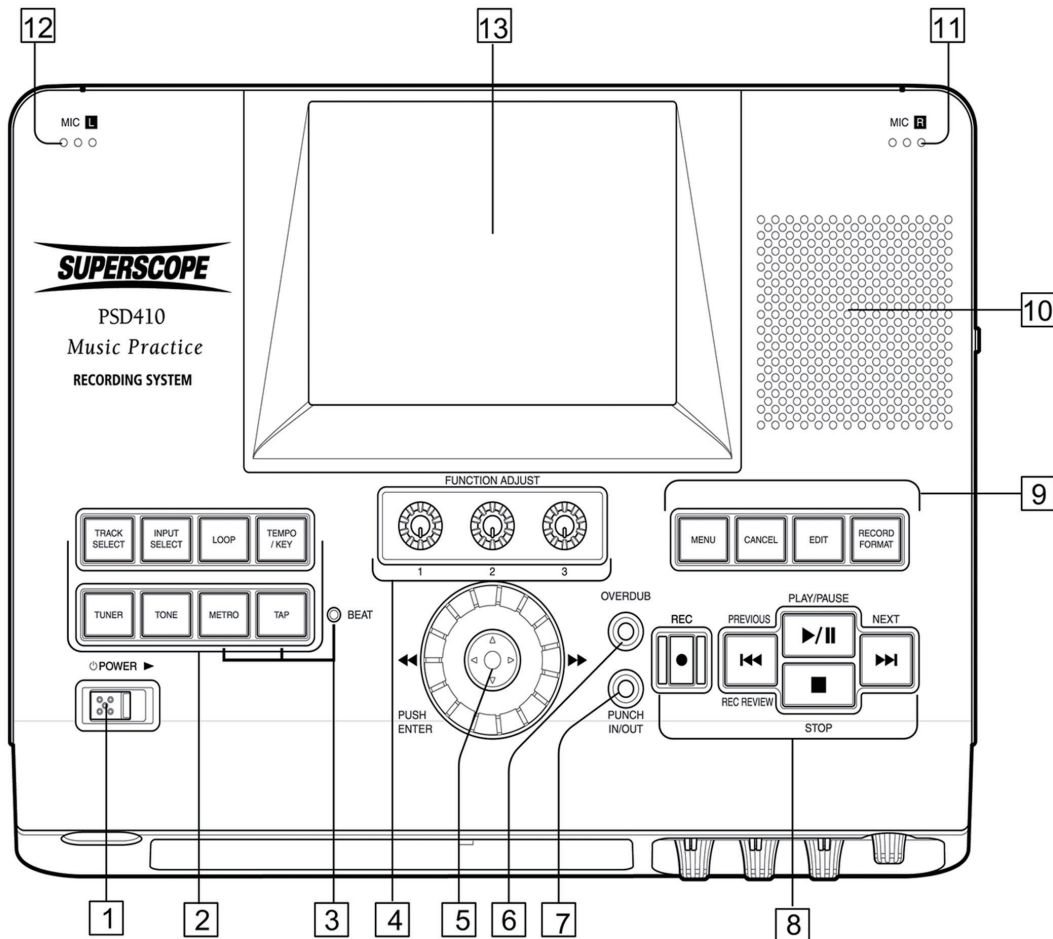
Batteries may have the same shape, but different voltages. Do not mix different battery types.

If a battery leaks, clean the liquid from the battery compartment and dispose of the leaking battery according to the guidelines of your local government.

Please dispose of the used batteries according to the guidelines of your local government.



Top Panel

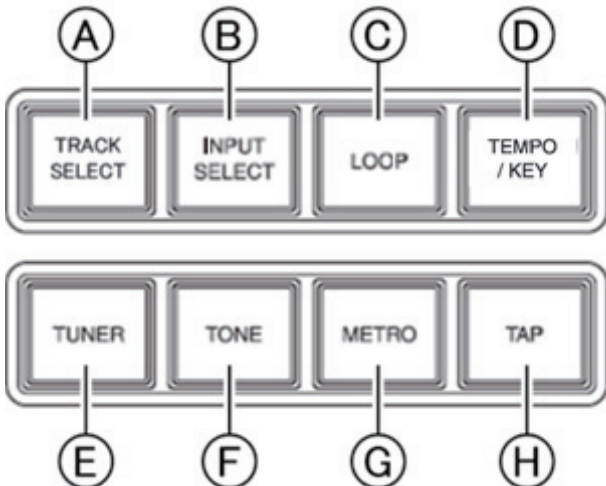


1 POWER ►

Slide the POWER switch to the right to turn power ON or OFF.

(A) TRACK SELECT	(E) TUNER (Chromatic tuner)
(B) INPUT SELECT	(F) TONE (Tuning tone)
(C) LOOP (A-B)	(G) METRO (Metronome)
(D) TEMPO / KEY	(H) TAP

2 FUNCTION CONTROL Buttons



A. TRACK SELECT

Press to select a track for playback, Edit, Overdub, or Punch In/Out. Also, use to select a record location. Press this button a second time to return to the normal screen.

B. INPUT SELECT

Press to select an input for recording or practice. The Input Select menu also provides options for Pan, Input Equalizer, and Effect. Press this button a second time to return to the main screen.

C. LOOP

Press to set loop markers and seamlessly loop a section of audio. Press this button a second time to return to the main screen.

D. TEMPO/KEY

Press to adjust the Key, Tempo, and Fine Tuning of any file played on the PSD410. The Tempo/Key menu also provides options for Voice Reduction, Playback Level, Playback Balance, and Playback Equalizer. Press this button a second time to return to the main screen.

E. TUNER

Press to access the chromatic tuner. Press this button a second time to return to the main screen.

F. TONE

Press to sound the 440Hz tuning tone. The frequency of this tone is adjustable between 410Hz and 470Hz. Press this button a second time to return to the main screen.

G. METRO

Press to access the Metronome menu. Press this button a second time to return to the main screen.

H. TAP

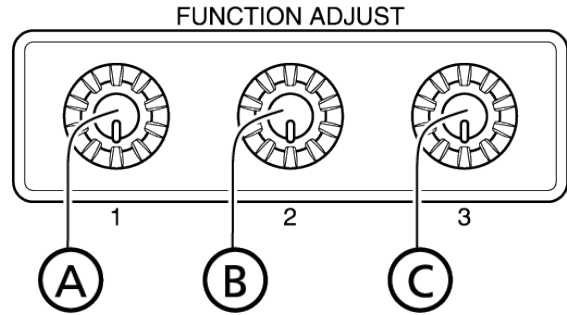
When the metronome menu is selected, press repeatedly at the desired tempo. Once this button has been pressed six consecutive times, a new BPM (beats per minute) setting will be established for the metronome.

3 BEAT Indicator

LED flashes on and off according to the BPM setting of the metronome. The LED will flash green for normal beats and red for accent beats.

4 FUNCTION ADJUST Knobs

Turn to adjust various parameters. In addition, pushing the knobs resets certain settings to their default values. Refer to indication on display for knob/function relationship.

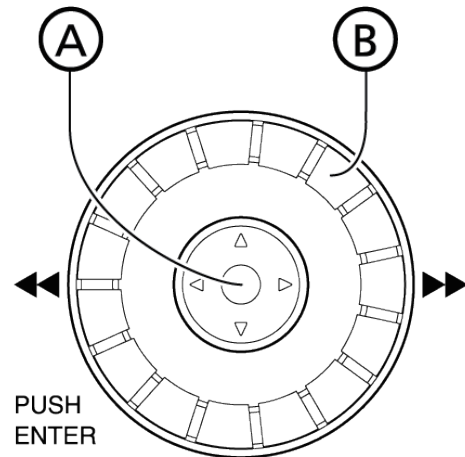


Ⓐ FUNCTION ADJUST #1 knob

Ⓑ FUNCTION ADJUST #2 knob

Ⓒ FUNCTION ADJUST #3 knob

5 JOG WHEEL / JOYSTICK / ENTER



Ⓐ JOYSTICK

Ⓑ JOG WHEEL

A. Move the joystick up and down to select items, or in certain modes, to change screens. Move the joystick right and left to changes parameters, or in Play mode to search through a track. In addition, push the joystick to "ENTER" (select) items or settings.

B. Turn the jog wheel to select various items or parameters.

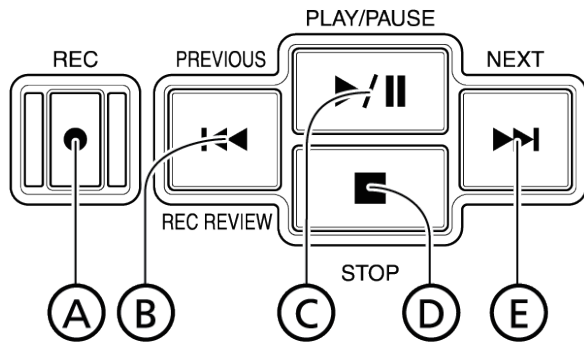
OVERDUB

When an accompaniment track is selected, press this button to enter Overdub mode. When overdubbing is complete, press this button to return to the main screen.

PUNCH IN / OUT

When a track is selected, press to enter Punch In/Out mode. When you have finished recording your punch-in, press this button to return to the main screen.

CONTROL Buttons (Transport)



Ⓐ REC
Ⓑ PREVIOUS & REC REVIEW
Ⓒ PLAY/PAUSE
Ⓓ STOP
Ⓔ NEXT

A. REC BUTTON

From Stop mode, press to enter Record Pause mode or Record mode. The Record LED will flash during Record Pause mode and remain lit during Record mode. From Record mode, press to increment a track.

B. PREVIOUS & REC REVIEW BUTTON

During playback, press to return to the beginning of the track. If playback is within one second of the start point, press to return to the beginning of the previous track. In Stop mode, press to return to the beginning of the previous track. In Record Mode, press to stop recording and automatically play back the recently recorded file (Rec Review function).

C. PLAY/PAUSE Button

From Stop mode, press to start or pause playback. From Record Pause mode, press to begin recording. From Record mode, press to pause the recording and increment a track.

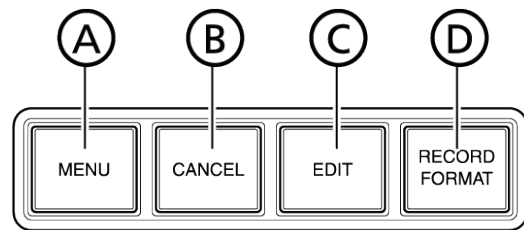
D. STOP BUTTON

Press to stop playback or recording.

E. NEXT

Press to advance to the next track.

CONTROL Buttons (Top Right)



Ⓐ MENU
Ⓑ CANCEL
Ⓒ EDIT
Ⓓ RECORD FORMAT

A. MENU

Press to view menu options.

B. CANCEL

Press to cancel settings and delete characters when editing titles and file information.

C. EDIT

Press to view edit options.

D. RECORD FORMAT

Press to view the Record Settings menu.

10 Internal Speaker

All PSD410 sounds can be heard through the built-in monitor speaker.

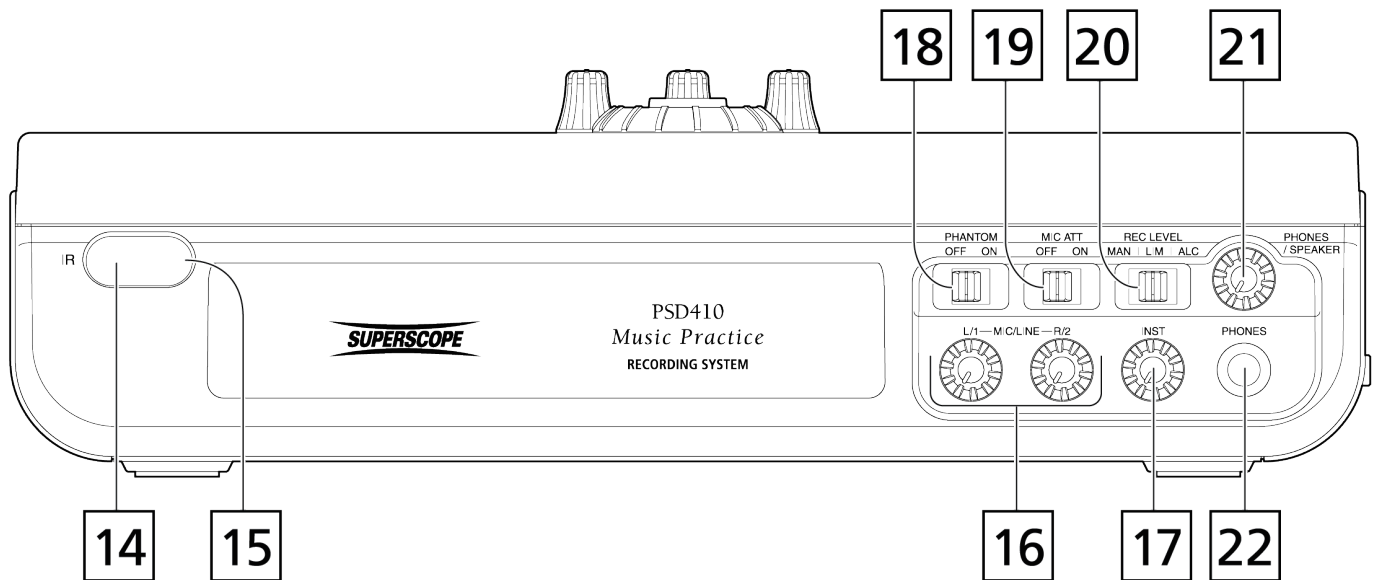
11 - 12 Internal Mic R & Internal Mic L

Use the Right and Left internal mics to record without additional equipment.

13 LCD Color Display

High-resolution full-color liquid crystal display monitor. Please refer to [LCD Display](#) for an explanation of display icons.

■ Front Panel



14 Infrared (IR) Receiver

The infrared receiver detects signals from the wireless remote controller.

15 IR Signal Indicator

This LED flashes red when a signal from the wireless remote controller is received.

16 MIC / LINE L & R Level Control

Turn these knobs to adjust the level of the MIC/LINE inputs.

17 Instrument Level Control

Turn this knob to adjust the level of the INST input.

18 Phantom Power ON/OFF SWITCH

Switch on to supply 48V phantom power to microphones connected to the XLR inputs. Switch off when a microphone does not need phantom power.

19 MIC ATT ON/OFF

If input level controls are turned low and microphone or instrument levels are still too strong, switch on to add 15dB of attenuation.

20 RECORD LEVEL MAN / LIM / ALC

This switch determines the method for setting record levels.

MAN (Manual)

Input level is controlled by manual adjustment of the Mic/Line, INST, or AUX level controls.

LIM (Limiter)

Input level is controlled by manual adjustment of the Mic/Line, INST, or AUX level controls. A limiter circuit protects against signal overload.

ALC (Automatic Level Control)

The Mic/Line, INST, or AUX level controls are bypassed and input level is controlled automatically. A limiter circuit protects against signal overload.

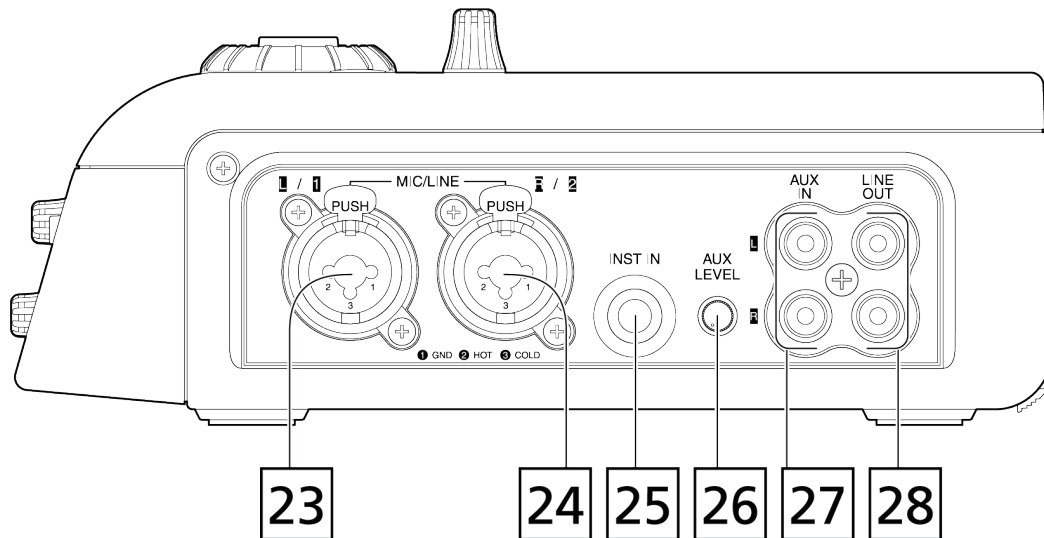
21 PHONES / SPEAKER LEVEL

Turn this knob to adjust the level for the built-in speaker and headphones.

22 PHONES Jack

Connect stereo headphones here. This input accepts 1/4" headphone plugs.

■ Right Side Panel



23 Left / XLR / "1/4" Input Jack

Connect microphones or line level equipment with XLR or 1/4" inch plugs here. Push the Input Select button [2B] to select the input you wish to use.

24 Right / XLR / "1/4" Input Jack

Connect microphones or line level equipment with XLR or 1/4" inch plugs here. Push the Input Select button [2B] to select the input you wish to use.

25 INST IN Jack

Connect an electric guitar, bass, or keyboard here.
VU Meter Overload If your keyboard or guitar/bass signals routinely cause the VU meters to display "OVER," change INST Input Gain setting to Low.

26 AUX LEVEL

Turn this knob to adjust the input signal level of the AUX IN.

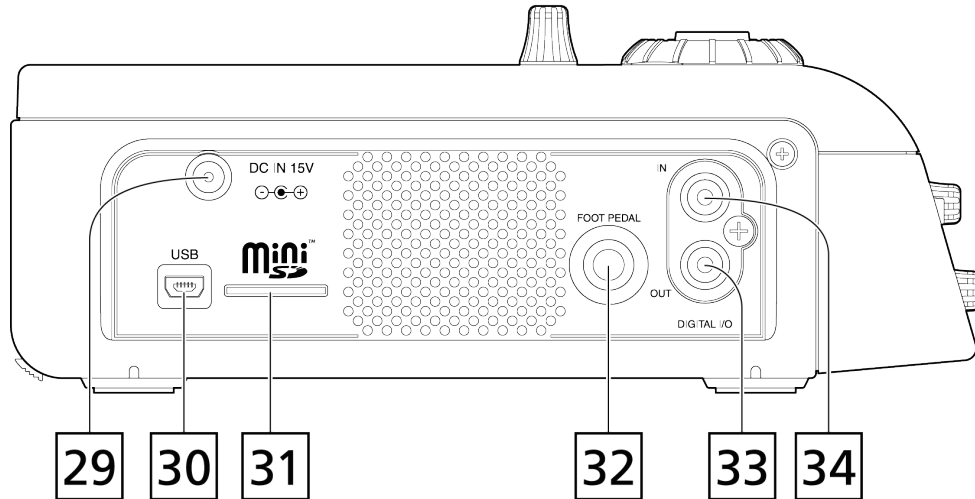
27 AUX IN Jacks

Use these inputs when connecting line level equipment with RCA outputs, such as CD players or mixing boards.

28 LINE OUT Jacks

Connect these outputs to the inputs of another audio device, such as an amplifier, mixing board or alternate recording device.

■ Left Side Panel



29 DC Input Jack

Connect the DA450PSD AC to DC adapter here. Do not use any adapter other than the DA450PSD.

30 USB Connector

Connect a USB cable here to transfer data between the PSD410's mini SD card and a PC. In USB mode, all other features will be inactive. The PSD410 will not enter USB mode during recording or when menu screens are active.

31 Mini SD Slot

Insert a mini SD card in here. (The PSD410 includes a micro SD card with a micro-to-mini adapter.)

32 FOOT PEDAL Jack

Connect an optional foot pedal here to provide Play/Pause, Record/Pause, or Punch In/Out control. The Superscope FT200 foot pedal is available at our online store.

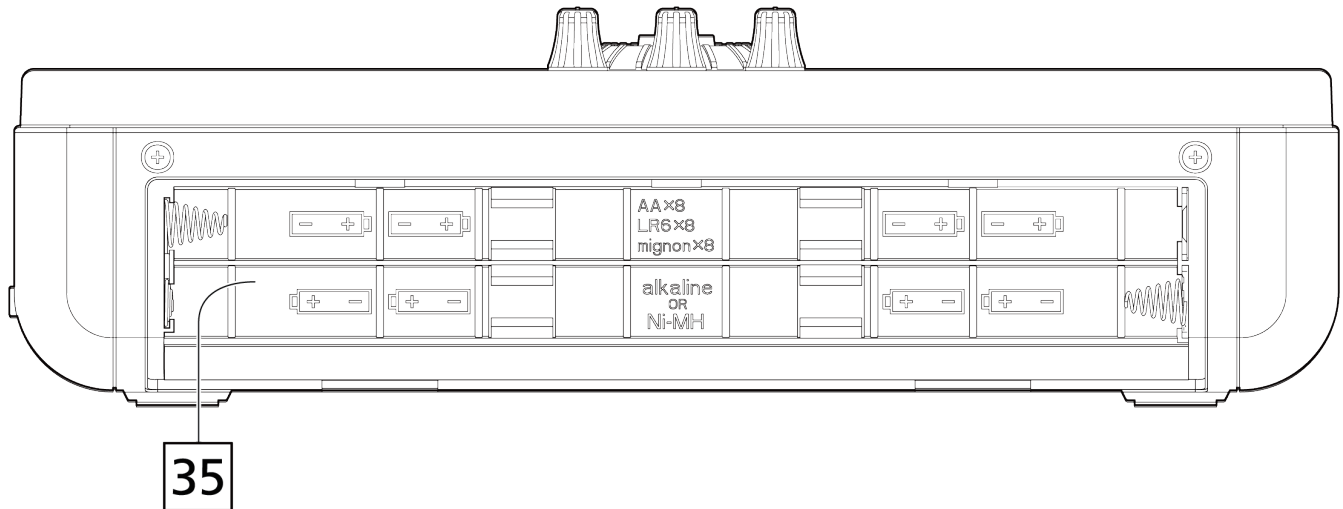
33 Digital OUT Jack

Connect to the digital input terminal of another audio product. The PSD410 outputs a signal with a 44.1 kHz sample rate.

34 Digital IN Jack

Connect the digital output of another audio product to this terminal.

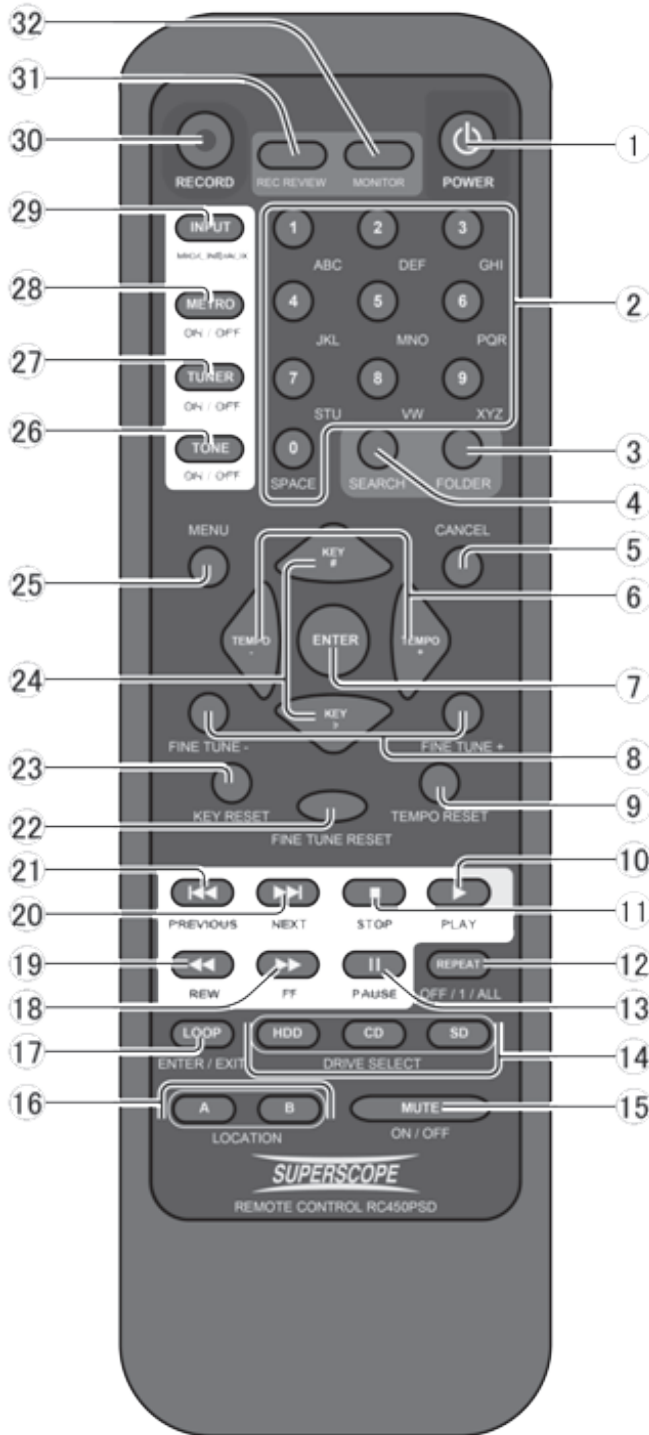
■ Back Panel



35 Battery Compartment

Insert a Ni-MH rechargeable battery or eight alkaline size AA batteries here. Please refer to "Using Batteries."

Remote Control



① **STANDBY / POWER**

Press to turn power ON or OFF.

✘ During battery operation, this button can only be used to power the unit off. The AC adapter must be connected to power the unit on with the remote control.

② **Alphanumeric Keypad**

When editing folder names, playlist names, or file information, use the alphanumeric keypad to enter text.

③ **FOLDER**

Press to select a new folder.

④ **SEARCH**

Press to access the [Search function](#).

⑤ **CANCEL**

When editing folder names, playlist names, or file information, use this button to delete a character. Also used to undo changes to Menu settings.

⑥ **TEMPO**

Press to increase or decrease playback speed without affecting pitch.

⑦ **ENTER**

Press to enter selected menus or confirm setting changes.

⑧ **FINE TUNE**

Press to increase or decrease playback pitch without affecting playback speed. Fine Tune control is adjustable +/-50 cents (100 cents = 1 semitone).

⑨ **TEMPO RESET**

Press to reset Tempo control to normal speed.

⑩ **PLAY**

Press to play the currently selected track.

⑪ STOP ■

Press to stop playback.

⑫ REPEAT

Press to change **repeat mode**. Options include: Off, All, 1, (Single, 1), (Single, All), and Single.

⑬ PAUSE ||

Press to pause playback.

⑭ DRIVE SELECT

On the PSD410, pressing the SD button will return to the Track Select screen. The HDD and CD buttons are reserved for the model PSD450 and will have no effect on the PSD410.

⑮ MUTE

Press to mute the internal speaker and Line Out. This will not affect the headphones or Digital Out.

⑯ LOCATION

- A.** LOCATION A – In Loop mode, press to set location A.
- B.** LOCATION B – In Loop mode, press to set location B.

⑰ LOOP ENTER/EXIT

Press to enter and exit Loop mode.

⑱ FF ►► (Fast Forward)

Press and hold to initiate an audible forward search of the playing track.

⑲ REW ◀◀ (Rewind)

Press and hold to initiate an audible reverse search of the playing track.

⑳ Next ►►

Press to advance to the next available track.

㉑ Previous ◀◀

Press to return to the beginning of the selected track. Press within the first second of playback to return to the previous track.

㉒ FINE TUNE RESET

Press to reset Fine Tune control to normal pitch.

㉓ KEY RESET

Press to reset Key control to normal pitch.

㉔ KEY

Press to change the playback key in semitones. Press 'b' to lower the key. Press '#' to raise the key. Key is adjustable +/- one octave.

㉕ MENU

Press to view Menu options.

㉖ TONE ON/OFF

Press to sound the 440Hz tuning tone. The frequency of this tone is adjustable between 410Hz and 470Hz. Press this button a second time to return to the main screen.

㉗ TUNER ON/OFF

Press to access the chromatic tuner. Press this button a second time to return to the main screen.

㉘ METRO ON/OFF

Press to turn the metronome ON and to enter the metronome screen. Press this button a second time to stop the metronome and return to the main screen.

㉙ INPUT MIC/LINE/AUX

Press to change the Input Source. Options include: Input MUTE, Internal MIC, External MIC, LINE, INST, Internal MIC (Lch) + INST, External MIC (Lch) + INST, LINE (Lch) + INST, AUX, and DIGITAL.

㉚ RECORD

Press to enter Record Pause mode. Press this button a second time to begin recording. During recording, press this button to increment tracks.

㉛ RECORD REVIEW

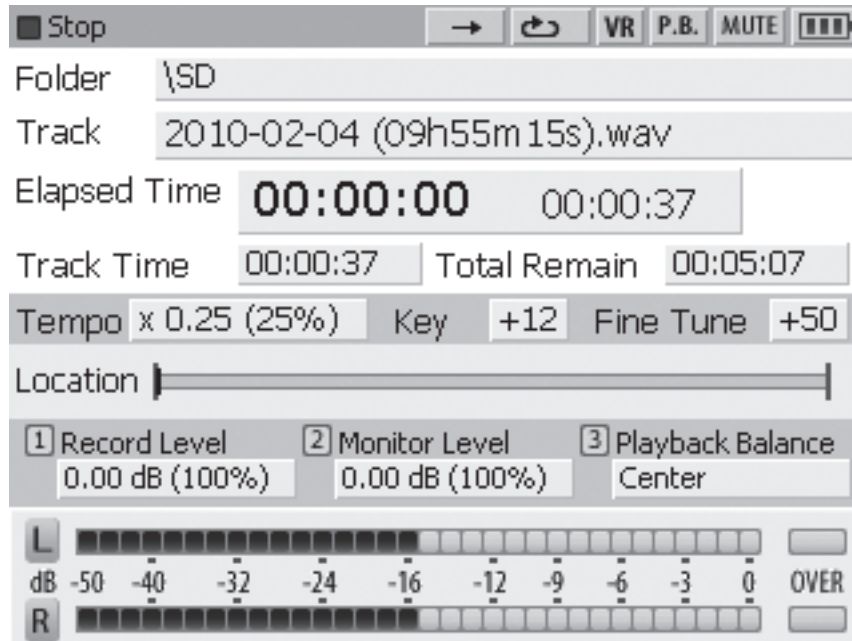
In Record mode, press to stop recording and automatically play back the recently recorded file.

㉜ MONITOR

Press to toggle the monitor source between Playback Signal and Recording Signal. When Playback Signal is selected, the input signals, e.g., External MIC, INST, etc. will not be heard.

LCD Display

PLAY / STOP Mode



Ⓐ Icons



① Status Icons

	Indicates STOP
	Indicates PLAY
	Indicates PLAYBACK PAUSE
	Indicates RECORD
	Indicates RECORD PAUSE




② Loop Icons

	Indicates "A-B" LOOP Playback is ON
	Indicates "A-B" LOOP Playback is OFF


③ Repeat Icons

	Play back current track once, then stop at start of current track (Single, 1)
	Play back and repeat current track (Repeat 1)
	Play back all tracks once, then stop at start of the first track (Single, All)



LCD Display

	Play back and repeat all tracks (Repeat All)
	Play back current track once, then stop at start of the next track (Single)
	No indication when Repeat Mode is OFF



④ Voice Reduction Icons

	Indicates VR is ON
	Indicates VR is OFF






⑥ Monitor Icons

	Playback audio is being monitored
	Record audio is being monitored

⑥ Mute Icons

	Indicates MUTE is ON
	No indication when MUTE is OFF

⑦ AC/Battery Icons

	Indicates the battery level is full
	Indicates the battery level is less than full capacity
	Indicates the battery level is low
	Indicates the battery level is almost empty (needs to be charged or replaced)
	Indicates the AC Adapter is connected

PLAY / STOP Mode | ⑧ File Information

Folder	\SD
Track	Music1.wav

Folder	Displays the current folder
Track	Displays the active track

PLAY / STOP Mode | **© Playback Data**

Elapsed Time **00:00:00** 00:00:37
 Track Time **00:00:37** Total Remain **00:05:07**
 Tempo **x 0.25 (25%)** Key **+12** Fine Tune **+50**

Elapsed Time	Displays the elapsed and remaining time for the current track
Track Time	Displays the total time for the selected track
Total Remain	Displays the total time for all tracks in the currently selected folder
Tempo, Key, Fine Tune	Displays the current Tempo, Key, and Fine Tune settings (only when modified)

PLAY / STOP Mode | **Ⓓ Location**

Indicating Location

Displays the current position on the time line.
Displays the position of location A on the time line.
Displays the position of location B on the time line.

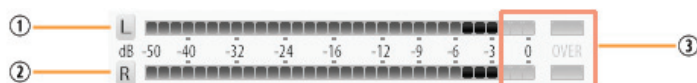
PLAY / STOP Mode | **Ⓔ Balance & Levels**

1 Record Level **2** Monitor Level **3** Playback Balance
 0.00 dB (100%) 0.00 dB (100%) Center

Assignment of FUNCTION ADJUST knobs

1	When the Play/Stop mode screen is active, use FUNCTION ADJUST #1 to adjust Record Level.
2	When the Play/Stop mode screen is active, use FUNCTION ADJUST #2 to adjust Monitor Level. This does not affect the level at which accompaniment files are recorded.
3	When the Play/Stop mode screen is active, use FUNCTION ADJUST #3 to adjust Playback Balance.

PLAY / STOP Mode | **Ⓕ VU Meters**



Level meter indication

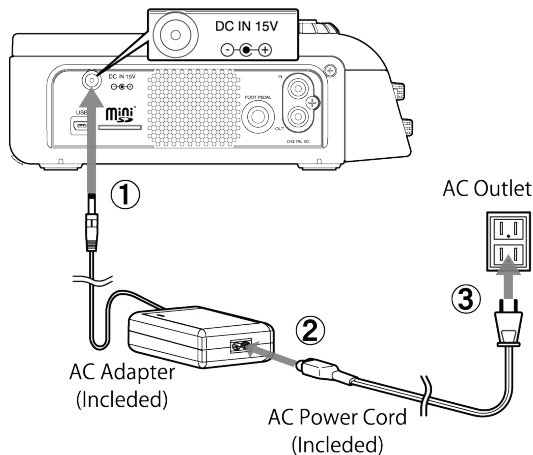
1	Displays the sound level of the left channel in decibels (dB).
2	Displays the sound level of the right channel in decibels (dB).
3	When sound level is beyond 0dB, "OVER" turns on.

Powering On

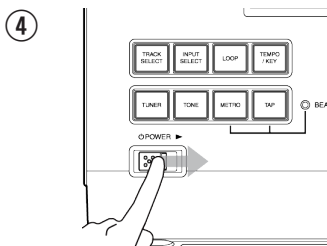
The PSD410 works with AC power or AA size batteries. Before using batteries, please refer to [Using Batteries](#).

- ✘ It is not possible to power the unit ON with the remote controller when using battery power.

Using the AC Adapter



- ① Connect the AC Adapter to the DC Jack.
- ② Connect the AC Cord to the Input of the AC Adapter.
- ③ Connect the AC Plug to AC power source.
- ④ Slide the POWER switch to power on.



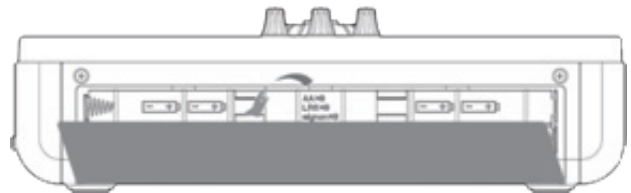
Using Batteries

Compatible Batteries

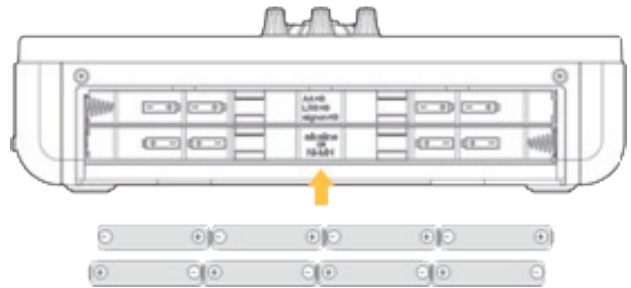
The PSD410 works with alkaline batteries and rechargeable Ni-MH batteries.

- ✘ Manganese batteries are not recommended due to their low capacity.

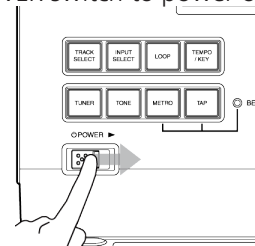
1. Remove the battery cover on the back of the PSD410.



2. Insert eight alkaline AA size or Ni-MH batteries (fully charged).



3. Close the battery cover.
4. Slide the POWER switch to power on.



When inserting batteries always be mindful of polarity (+/-).

- ✘ During battery operation, an icon is displayed in the top right corner of the display showing battery capacity. See [AC/Battery Icons](#).

Battery Life

Battery Type	Phantom Power	LCD	
		Full Bright	Dimmer
Ni-MH Fully charged 2,700mAh	OFF	6.0 h	6.5 h
Ni-MH Fully charged 2,700mAh	ON	5.0 h	5.5 h
Alkaline AA size	OFF	3.5 h	4.0 h
Alkaline AA size	ON	3.0 h	3.5 h

✘ All times are estimated. Battery times will vary by frequency of use, LCD dimmer settings, phantom power, etc.

AC Power and Battery Tips

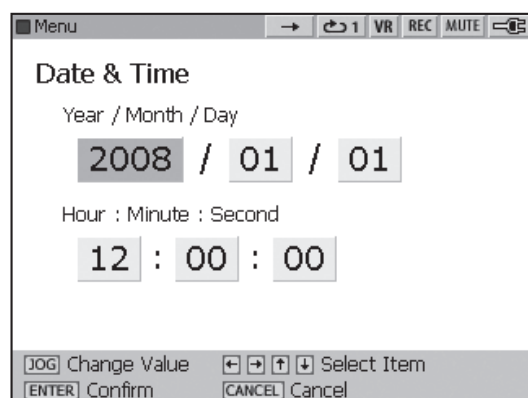
- When the AC adapter is connected while batteries are inserted, AC power will have priority over the battery power supply.
- It can be helpful to use batteries and the AC power supply together. If the AC power supply is removed unexpectedly, recording or playback will continue without interruption using battery power.
- Do not mix new and old batteries or battery types (Alkaline, Ni-Cad or Ni-MH).
- When the unit is not in use for a long period of time, please remove batteries to prevent battery leakage.

Setting Date and Time

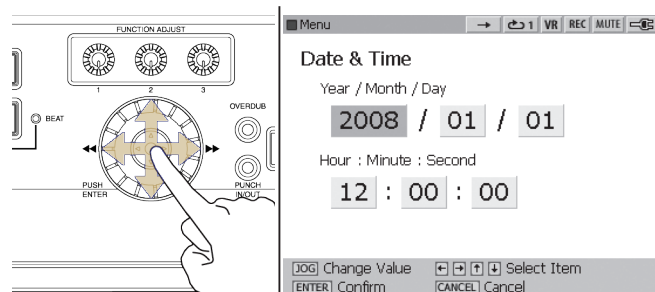
New recordings created by the PSD410 are given a default track title comprised of the current date and time, e.g., 2010-01-01 (12h00m00s).wav. Follow these steps to ensure that the date and time is accurate.

1. Press the Menu button.
2. Use the joystick or jog wheel to highlight System Settings. Press ENTER.
3. Use the joystick or jog wheel to highlight Set Time/Date. Press ENTER.

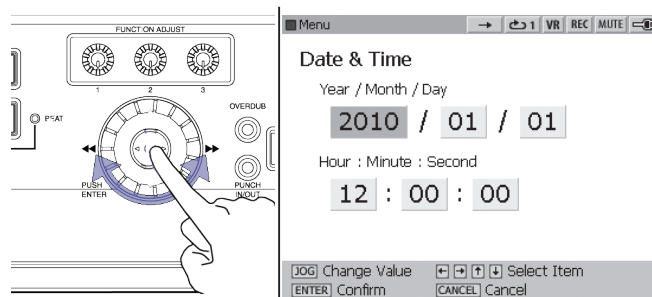
The following screen should appear:



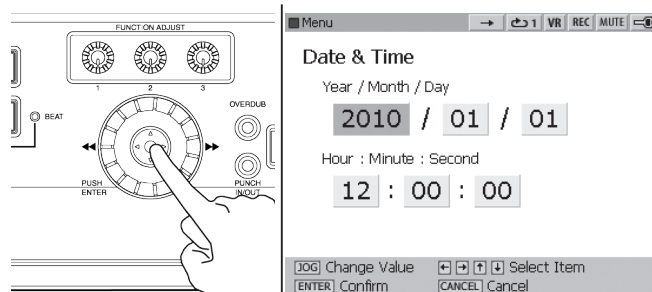
4. Move the joystick right, left, up, or down to select Year, Month, Day, Hour, Minute, or Second.



5. Change Time and Date values by turning the jog wheel.



6. Press ENTER to confirm new settings.



About the Mini SD Card

The PSD410 comes equipped with an SD card. Available record times vary with format/bitrates selected.

Some sample record times:

Stereo	SD Memory Card Size			
Settings (file format & quality)	512Mb	1Gb	2Gb*	4Gb
MP3 - (192 kbps)	5:54	11:48	22:36	47:12
MP3 - (128 kbps)	8:52	17:44	35:28	70:56
MP3 - (64 kbps)	17:44	35:28	70:56	141:52
PCM - 16 (44.1 kHz)	48 minutes	1:36	3:12	6:24
PCM - 24 (44.1 kHz)	32 minutes	1:04	2:08	4:16
*2GB SD card is supplied with the recorder.				
Mono	SD Memory Card Size			
Settings (file format & quality)	512Mb	1Gb	2Gb*	4Gb
MP3 - (96 kbps)	11:48	22:36	47:12	94:24
MP3 - (64 kbps)	17:44	35:28	70:56	141:52
MP3 - (32 kbps)	35:28	70:56	141:52	283:44
PCM - 16 (44.1 kHz)	1:36	3:12	6:24	12:48
Recording time shown in Hours:Minutes. All times are approximated.				

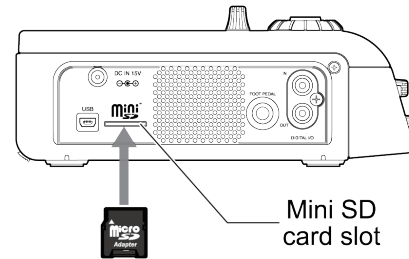
PSD410 File and Folder Limits

Files Per Folder	99
Folder Size	2GB
Single File Size	2GB

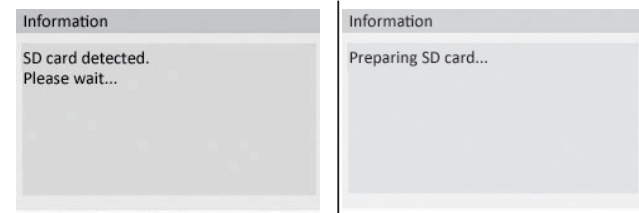
✘ When the above limits are exceeded during recording, a new folder is created automatically and recording continues.

Inserting a Mini SD Card

Insert a mini SD card (or micro SD with mini adapter) into the mini SD card slot on the left panel of the PSD410.



The PSD410 will begin creating a file database once an SD card is detected.



During this process, the PSD410 scans the SD card for audio files (WAV, MP3) and ID3 tag information (Artist, Title, Album, etc.). The time to create this database will vary, based on what is on the SD card you insert:

Inserting an SD Card with a Large Number of Audio Files

Although the PSD410 can support high capacity (mini or micro) SD cards (8GB, 16GB, etc.), the amount of audio files and folders you choose to store on your SD card will directly affect the amount of time it takes to create a file database. Superscope recommends that you limit the number of files/folders on the SD card.

Inserting an SD Card with a Large Number of Non-Audio Files

The PSD410 must scan all files before proceeding, so using the same SD card for non-audio files is not recommended. Any number of additional files on your SD card (e.g., JPG, MOV, PDF, etc) will slow down database creation.

Inserting an SD Card Containing Large Audio Files

When an audio file is detected on the SD card, the PSD410 will open the audio file and begin searching for content information, e.g. Title, Artist, Album, etc. The PSD410 must search the entire file in case this information is stored at the end of the file. Large audio files therefore require more time during database creation.

Removing the Mini SD Card

- ✘ Do not remove the mini SD card during recording, playback, or editing. It is recommended that you remove the mini SD card only after switching off power to avoid any risk of lost or damaged data.

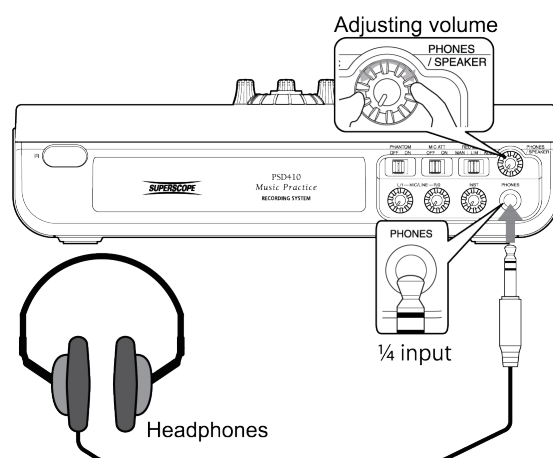
Safe SD Card Removal

1. Confirm that the PSD410 is not writing to the SD card (recording or editing).
2. Push the mini SD card further into the unit until the mini SD card springs outward.
3. Remove the mini SD card.

Setting Up Speakers

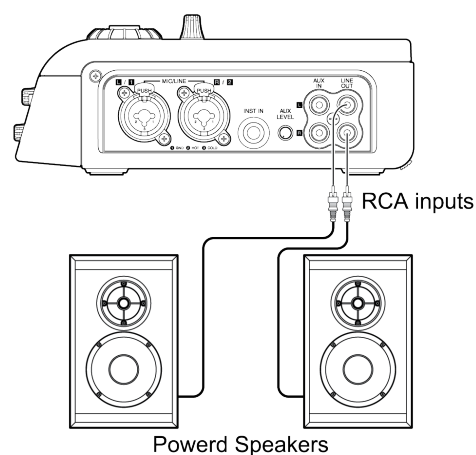
Using Headphones or the Built-In Speaker

When using headphones or the built-in speaker, regulate volume by turning the PHONES/SPEAKER level knob on the front panel. The internal speaker will be muted when headphones are connected.



External Speakers

When using a powered speaker system, (speakers with built-in amplifiers), please connect the speaker's LINE INPUT to the LINE OUT terminal on the right side panel. The left channel is the white terminal and the right channel is the red terminal. Use the volume control on the powered speakers to adjust level.



Setting Up Microphones, Instruments and Other Sound Sources

The PSD410 is designed to record microphones, musical instruments (guitars and keyboards), line level equipment and digital equipment (preamps, mixers, etc.). Please refer to the procedure that describes your particular recording set-up.

Microphones

Balanced Connections

Balanced signals require three separate connections (HOT, COLD, GND):

- HOT refers to the original audio signal.
- The COLD signal is the original signal with opposite phase.
- GND refers to the grounding wire.

Using balanced connections like the XLR plug (male) will help to eliminate noise, especially when running long cable lengths. The XLR inputs on the PSD410 will also lock to prevent microphone cables from becoming unexpectedly disconnected.



XLR Plug

Unbalanced Connections

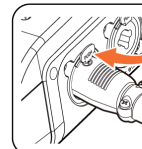
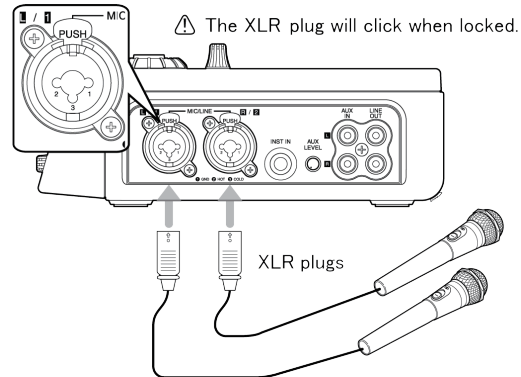
Unbalanced signals only use two connections and are therefore more susceptible to noise than balanced connections.



Unbalanced 1/4" Plug

External Microphones

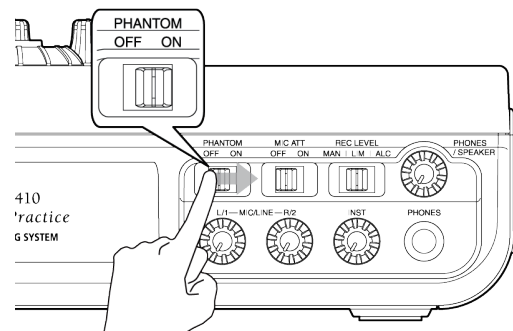
1. Insert microphones into the MIC/LINE input jacks on the side panel. Both XLR type and 1/4" standard plug types can be used.



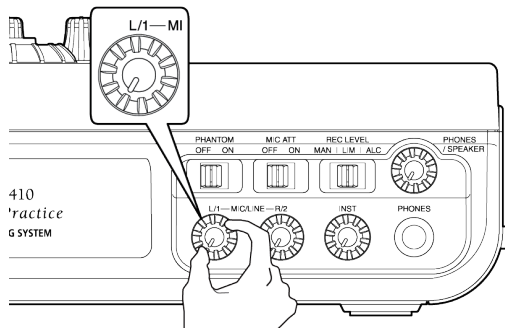
When removing the plug

Push the tab labeled **PUSH** before removing XLR mic cables.

When using microphones requiring 48V phantom power, move the PHANTOM switch to the ON position. Consult your microphone's owner's manual for power requirement specifications

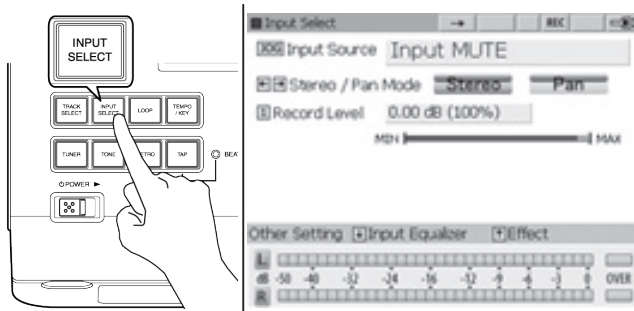


Adjust the **16** MIC / LINE L & R Level Controls to obtain a suitable recording level. See [Setting Levels](#), below.

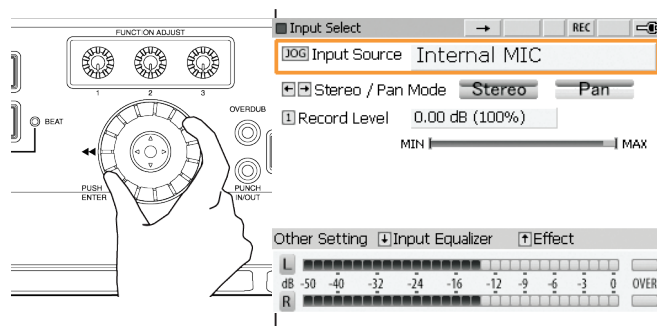


✘ When using the AUX input, control input level with the AUX LEVEL controller on the right side panel. When using the INST input, control input level with the Instrument level controller.

2. Push the INPUT SELECT button to display the Input Source options.



3. Turn the jog wheel to select "External MIC" and then press the INPUT SELECT button to exit the screen. SELECT button to exit the screen.



Setting Levels

As you sing or play your instrument, turn the L/1 and R/2 input-level control knobs clockwise while observing the display VU meters.

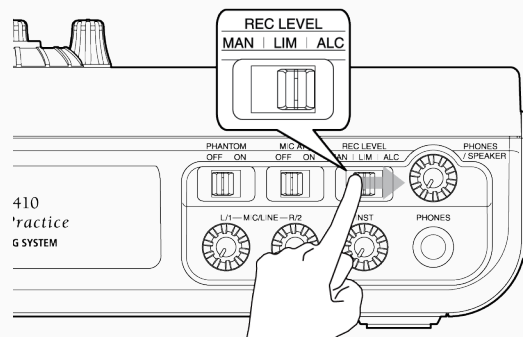


When your performance is at its loudest, the VU meter should approach 0 dB without lighting OVER.

If the meter consistently lights red, adjust the input-level control knobs counter clockwise to reduce the level and avoid distortion. Switching the **20** REC LEVEL switch to the LIM (Limiter) setting can protect the recording from distortion caused by transient peaks.

To disengage the L/1 and R/2 input-level control knobs and set the recording level automatically, adjust the **20** REC LEVEL switch to ALC.

If your mics have higher than normal output, try switching the **19** MIC ATT switch to ON.



STEREO/PAN Mode

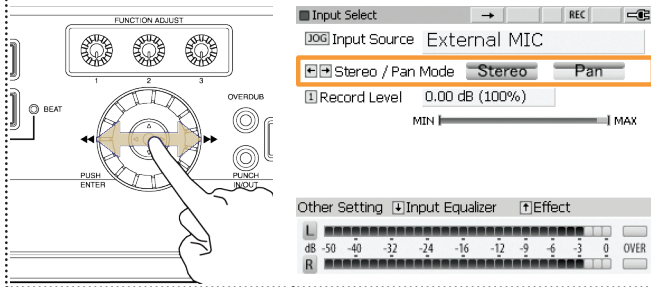
From the Input Select screen, move the joystick right or left to select Stereo Mode or Pan Mode (Stereo mode is the default setting).

Stereo Mode

Left channel inputs (L) are routed to the left channel of the recording. Right channel inputs (R) are routed to the right channel of the recording.

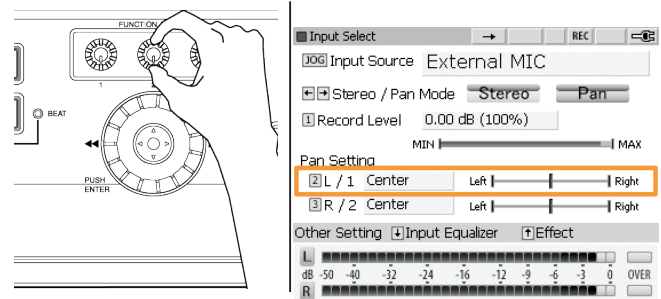
Pan Mode

Input signals can be routed to any position along the (L/R) stereo spectrum.



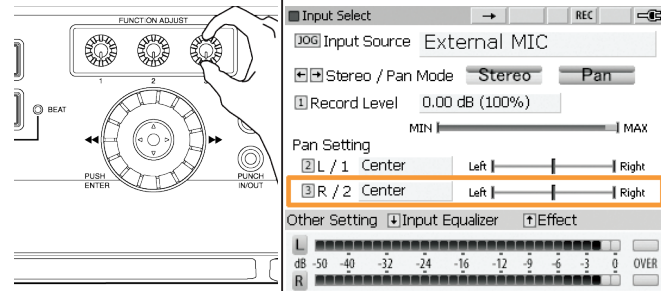
Pan Setting – L/1

Turn FUNCTION ADJUST #2 (4B) to adjust the Pan Setting for input L/1 (the left microphone). Adjustments are made in 1% increments between Left100% - Center - Right100%. The initial setting is Center.



Pan Setting – R/2

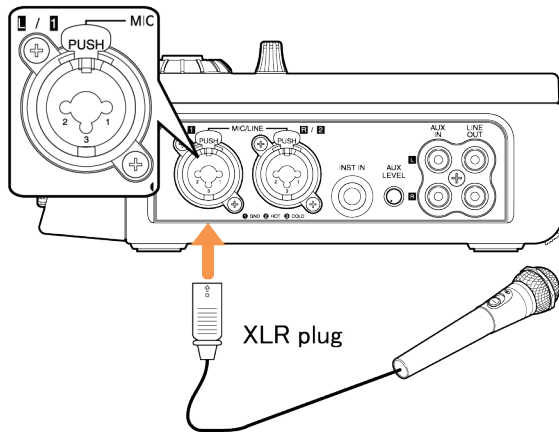
Turn FUNCTION ADJUST #3 (4C) to adjust the Pan Setting for input R/2 (the right microphone). Adjustments are made in 1% increments between Left100% - Center - Right100%. The initial setting is Center.



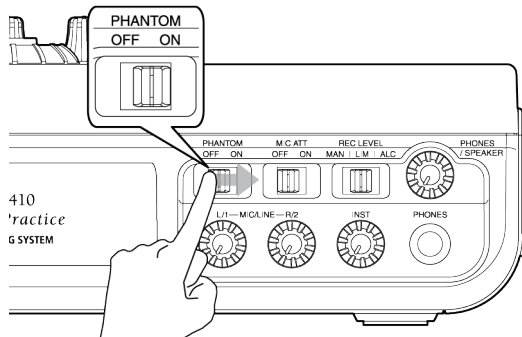
Recording a Solo Performance

Follow the instructions below when recording a voice or instrument with a single microphone:

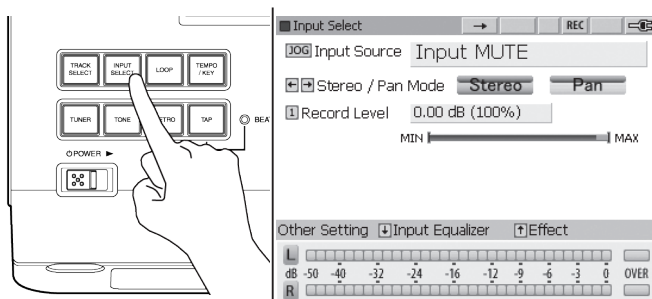
1. Insert a microphone into the MIC/LINE input (L/1) on the side panel. Both XLR type and 1/4" standard plug types can be used.



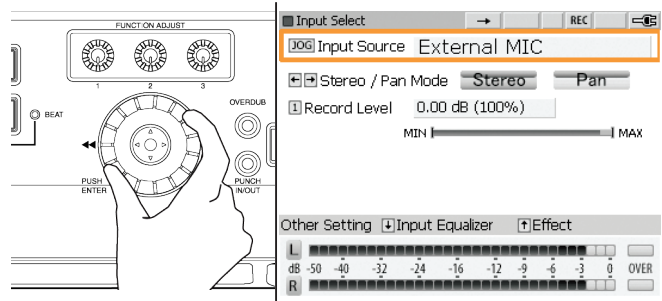
When using a microphone that requires 48V phantom power, move the PHANTOM switch to the ON position.



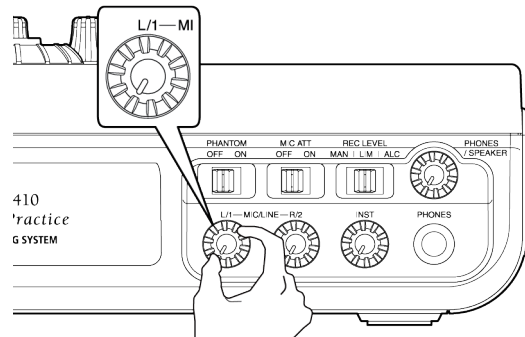
2. Push the INPUT SELECT button to display the Input Source options.



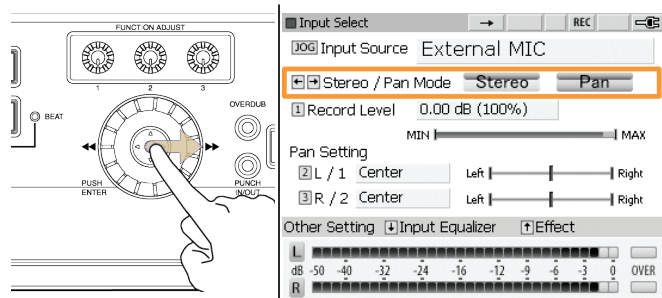
3. Turn the jog wheel to select External MIC and then press the INPUT SELECT button to exit the screen.



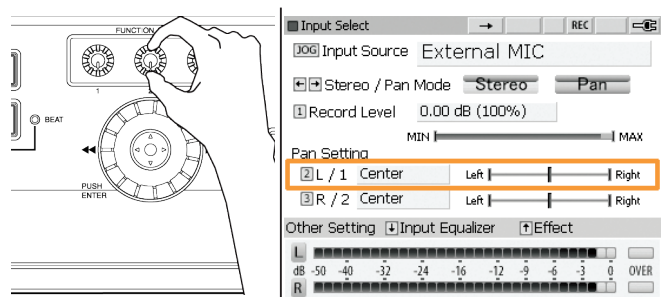
4. Adjust the **MIC / LINE level control (L/1)** to obtain a suitable recording level. See [Setting Levels](#).



5. From the Input Select Screen, move the joystick to the right to select Pan Mode.



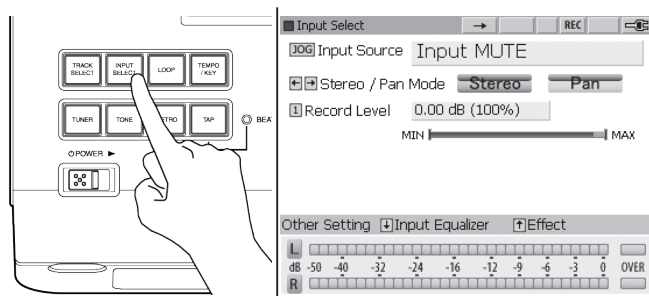
6. Pan Setting – L/1 Selecting Pan Mode will “center” the stereo position of the microphone connected to Input (L/1). When recording a solo performance, it is most common to place the soloist in the “center” of the stereo spectrum. To alter the stereo positioning for Input (L/1), turn FUNCTION ADJUST #2 (4B).



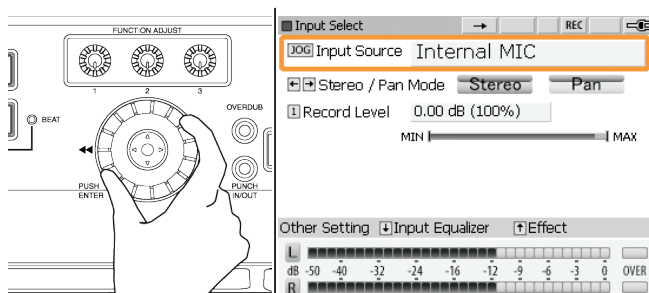
Internal Built-in Microphones

The PSD410 has a built-in stereo microphone. When using the built-in microphones, please refer to the following procedures.

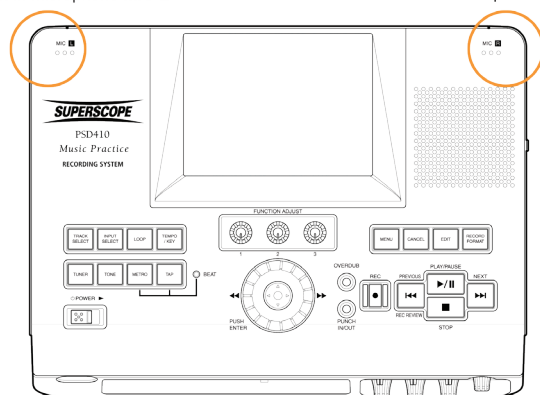
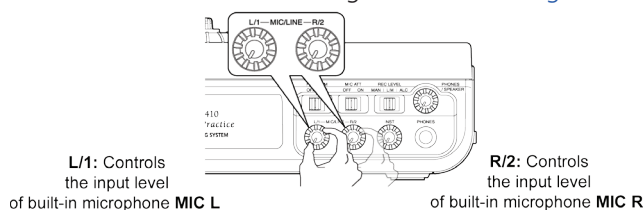
1. Push the INPUT SELECT button to display the Input Source options.



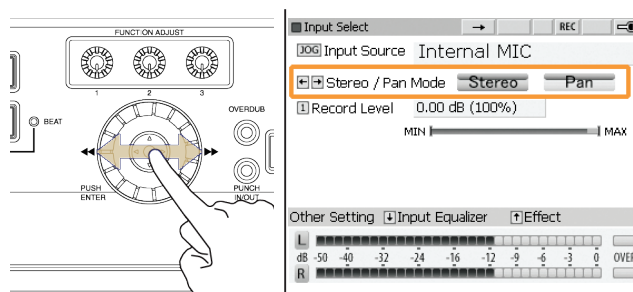
2. Turn the jog wheel to select Internal MIC and then press the INPUT SELECT button to exit the screen.



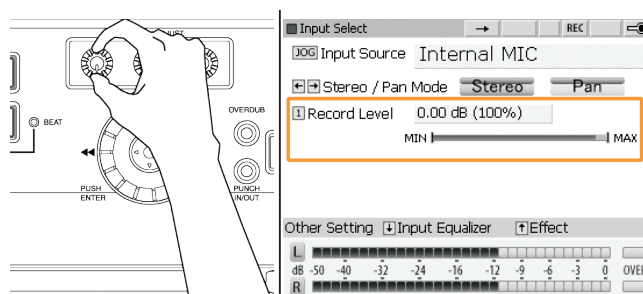
3. Adjust the **16 MIC / LINE L & R Level Controls** to obtain a suitable recording level. See [Setting Levels](#).



4. Move the joystick right or left to select Stereo Mode or Pan Mode (Stereo mode is the default setting).



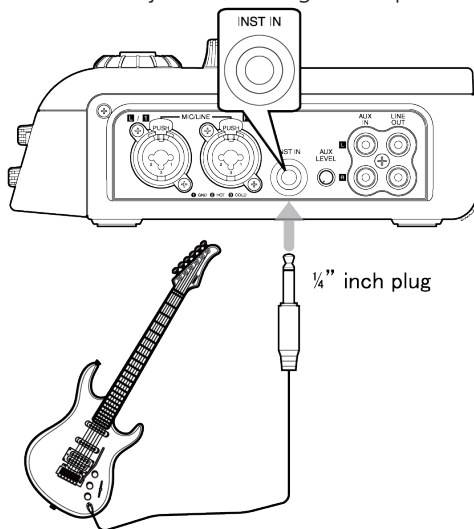
5. Set Record Level - For most applications, the Record Level should be set to the default value of 0dB. Turn FUNCTION ADJUST #1 (4A) to adjust Record Level. Press FUNCTION ADJUST #1 (4A) to return Record Level to 0dB.



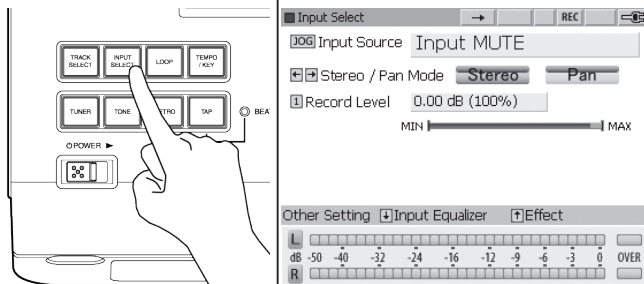
✘ When using the built-in microphones, the built-in speaker is muted to prevent feedback. To prevent the built-in microphones from picking up the sound of buttons on the top panel, operate the PSD410 with the RC450PSD remote control.

Connecting Musical Instruments

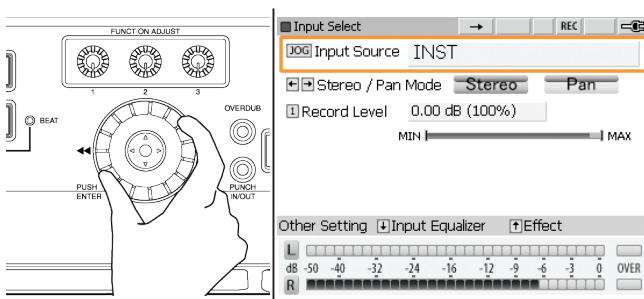
1. Please insert the plug from your instrument cable into the INST IN jack on the right side panel.



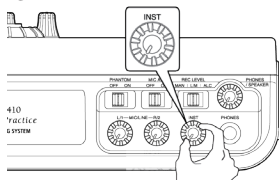
2. Push the INPUT SELECT button to display the Input Source options.



3. Turn the jog wheel to select INST and then press the INPUT SELECT button to exit the screen.



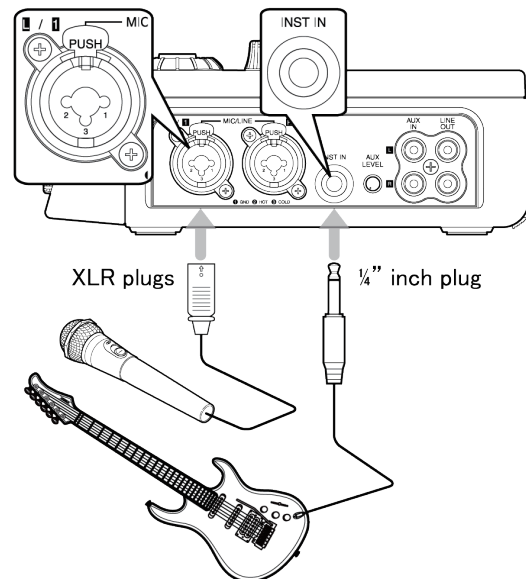
4. Adjust the **17** INST knob to obtain a suitable recording level.



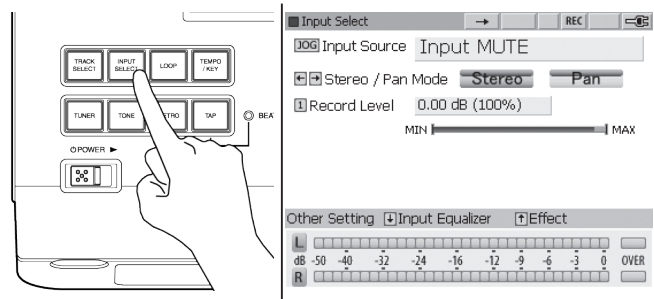
See [Setting Levels](#).

Recording a Microphone and a Musical Instrument at the Same Time

1. Please insert the plug from your instrument cable into the INST IN Jack on the side panel. Insert the microphone plug into MIC/LINE jack L1. In addition, please switch the PHANTOM switch on the front panel ON when connecting a condenser microphone.

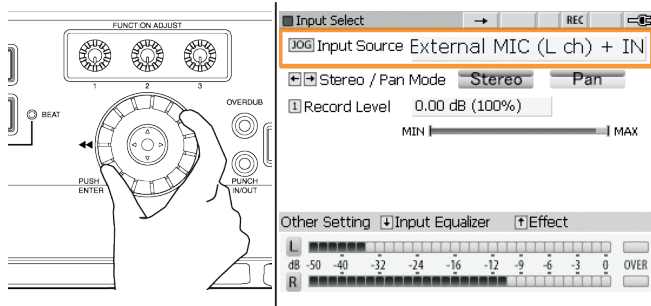


2. Push the INPUT SELECT button to display the Input Source options.

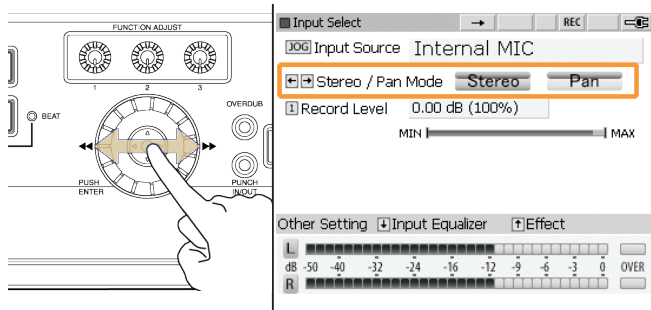


- Turn the jog wheel to select External MIC (L ch) + INST and then press the INPUT SELECT button to exit the screen.

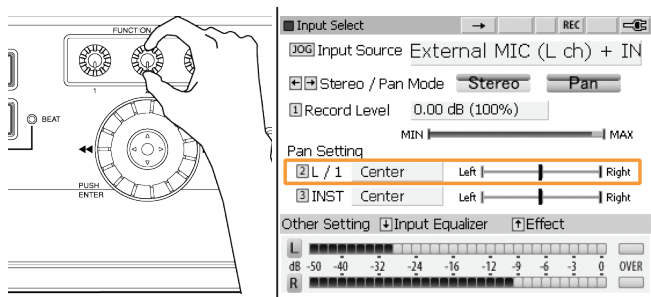
✘ When connecting an instrument along with a line level device such as an electronic piano, please choose LINE (L ch) + INST.



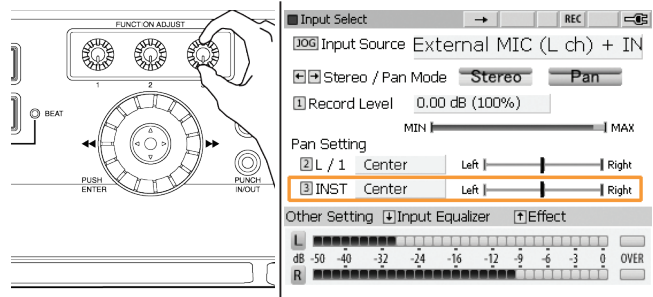
- Move the joystick right or left to select Stereo Mode or Pan Mode (Stereo mode is the default setting).



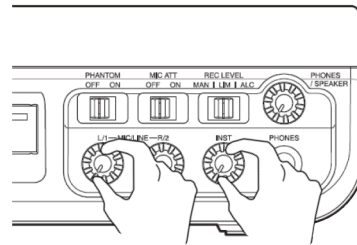
- If Pan Mode is selected, turn FUNCTION ADJUST #2 (4B) to adjust the Pan Setting for input L/1 (the left microphone). Adjustments are made in 1% increments between Left 100% - Center - Right 100%. The initial setting is Center.



- Turn FUNCTION ADJUST #3 (4C) to adjust the Pan Setting for the INST input. Adjustments are made in 1% increments between Left 100% - Center - Right 100%. The initial setting is Center.

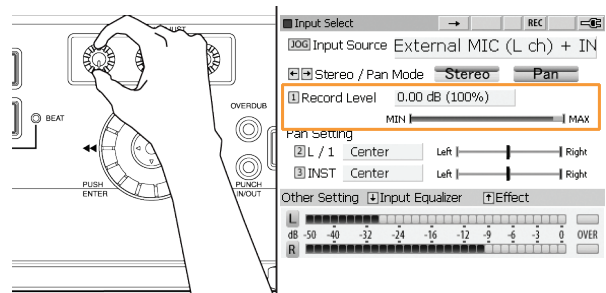


- Turn the **16** MIC/LINE input level knob (L/1) and the **17** INST knob to obtain a proper level and balance between the microphone and the instrument. Please refer to [Setting Levels](#).



✘ After the recording is completed, the MIC/ INST balance cannot be changed.

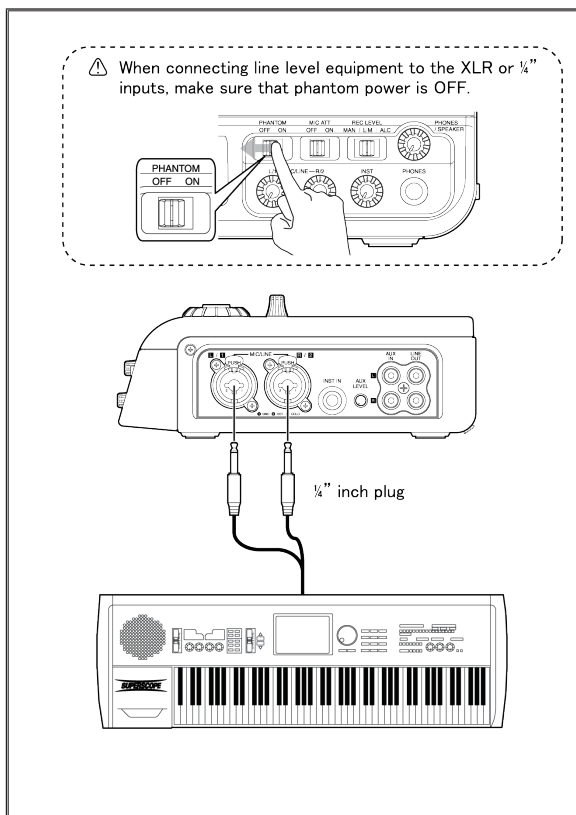
- Set Record Level - For most applications, the Record Level should be set to the default value of 0dB. Turn FUNCTION ADJUST #1 (4A) to adjust Record Level. Press FUNCTION ADJUST #1 (4A) to return Record Level to 0dB.



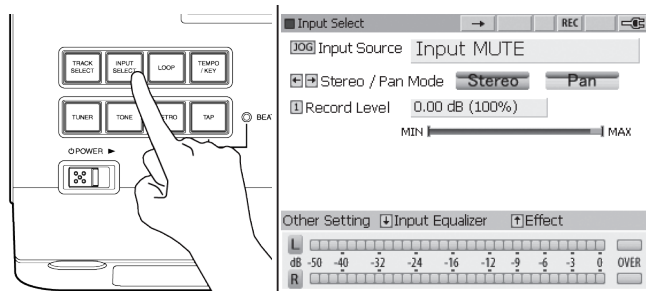
Line Level Sources

Use the following procedure when connecting line level equipment (keyboards, mixers, CD players, etc.) to the XLR or 1/4" balanced inputs.

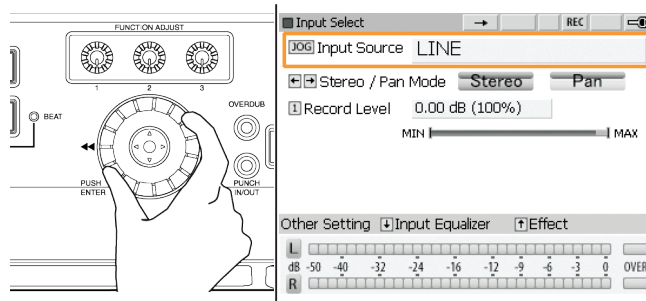
1. Connect line level audio equipment such as mixers or keyboards to the MIC/LINE Jacks on the right side panel.



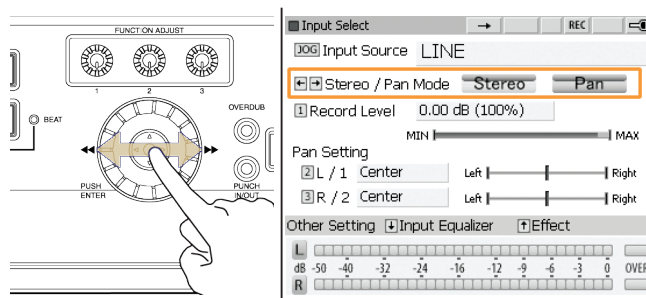
2. Push the INPUT SELECT button to display the Input Source options.



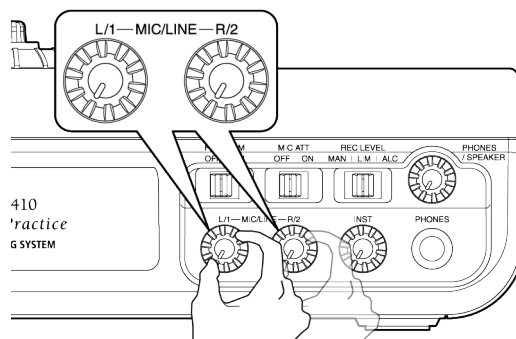
3. Turn the jog wheel to select LINE and then press the INPUT SELECT button to exit the screen.



4. Move the joystick right or left to select Stereo Mode or Pan Mode (Stereo mode is the default setting). For adjustment of Pan Setting see [STEREO/PAN Mode](#).



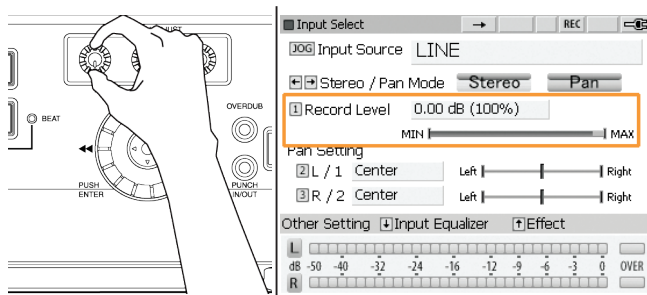
5. Adjust the **16** MIC / LINE L & R level controls to obtain a suitable recording level. See [Setting Levels](#).



L/1: Controls the input level for LINE L/1.

R/2: Controls the input level for LINE R/2.

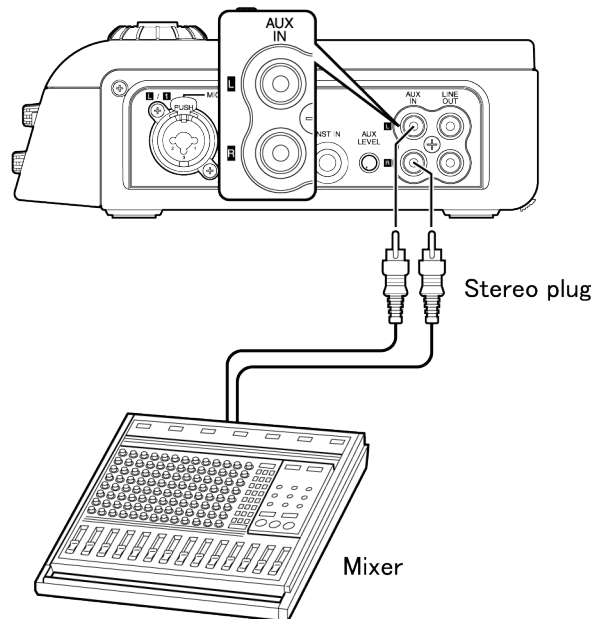
- Set Record Level - For most applications, the Record Level should be set to the default value of 0dB. Turn FUNCTION ADJUST #1 (4A) to adjust Record Level. Press FUNCTION ADJUST #1 (4A) to return Record Level to 0dB.



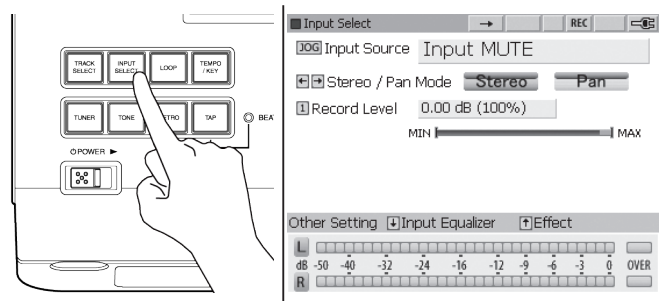
AUX

Use the following procedure when connecting line level equipment (keyboards, mixers, CD players, etc.) to the RCA unbalanced inputs

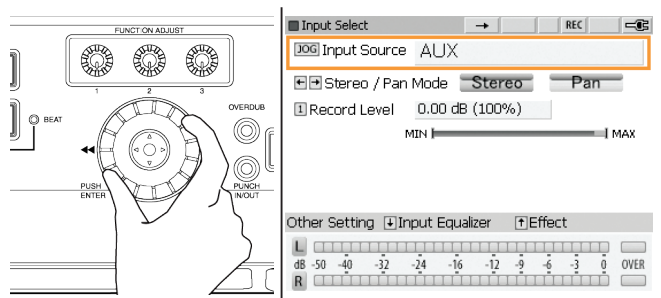
- Connect line level audio equipment such as mixers or keyboards to the AUX IN Jack on the right side panel.



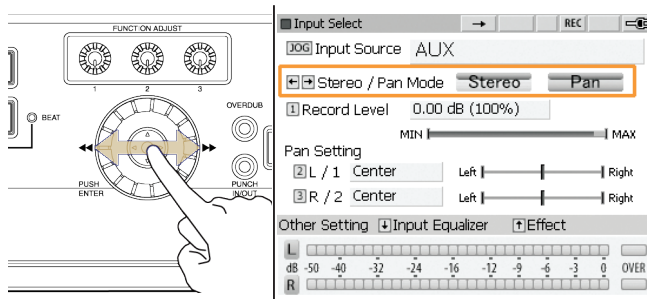
- Push the INPUT SELECT button to display the Input Source options.



- Turn the jog wheel to select AUX and then press the INPUT SELECT button to exit the screen.

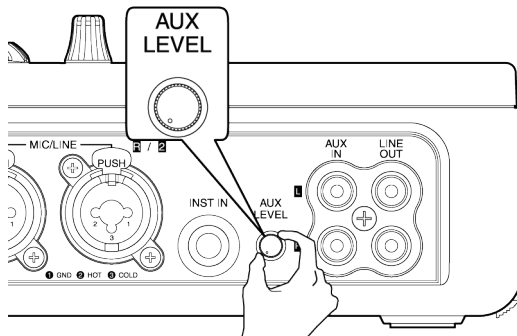


- Move the joystick right or left to select Stereo Mode or Pan Mode (Stereo mode is the default setting.)

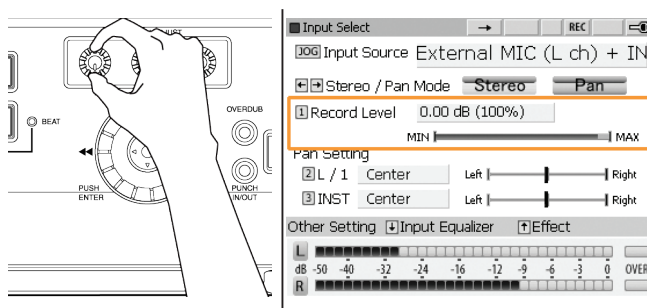


✳ For adjustment of Pan Setting see [STEREO/ PAN Mode](#).

- Adjust the **AUX LEVEL** control to obtain a suitable recording level. See [Setting Levels](#).



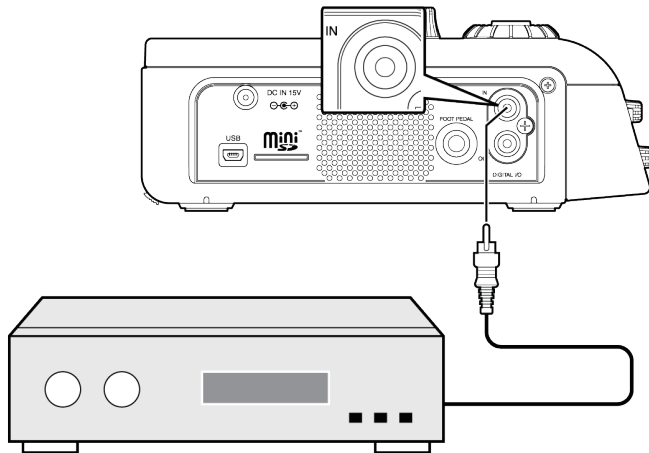
- Set Record Level - For most applications, the Record Level should be set to the default value of 0dB. Turn FUNCTION ADJUST #1 (4A) to adjust Record Level. Press FUNCTION ADJUST #1 (4A) to return Record Level to 0dB.



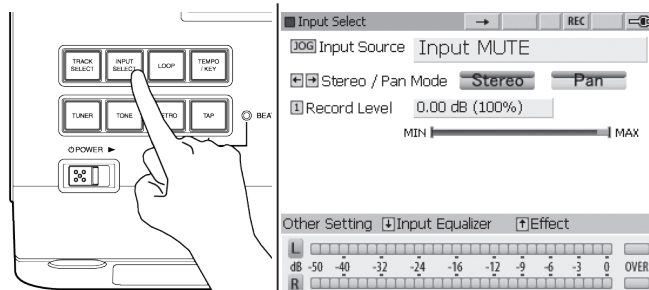
Digital Connection

Use the following procedure when connecting equipment with digital outputs (keyboards, mixers, CD players, etc.)

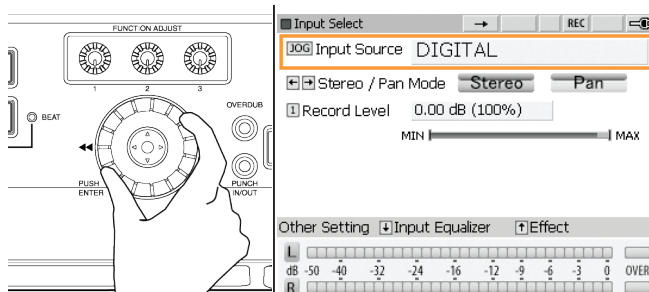
1. Connect digital equipment such as mixers or effects processors to the DIGITAL IN on the left side panel.



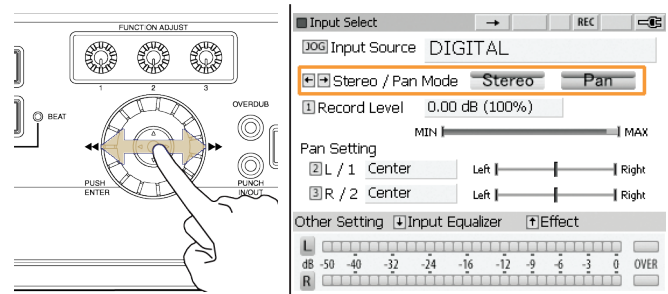
2. Push the INPUT SELECT button to display the Input Source options.



3. Turn the jog wheel to select DIGITAL and then press the INPUT SELECT button to exit the screen.

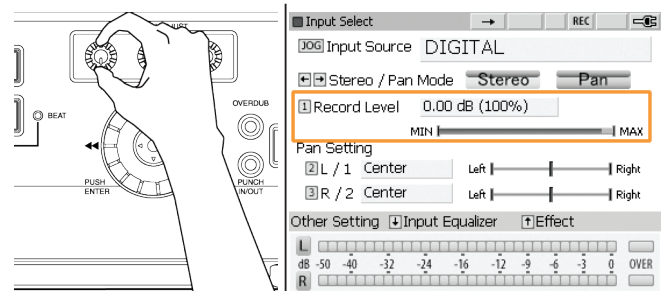


4. Move the joystick right or left to select Stereo Mode or Pan Mode (Stereo mode is the default setting).



✖ For adjustment of pan settings, see [STEREO/ PAN Mode](#).

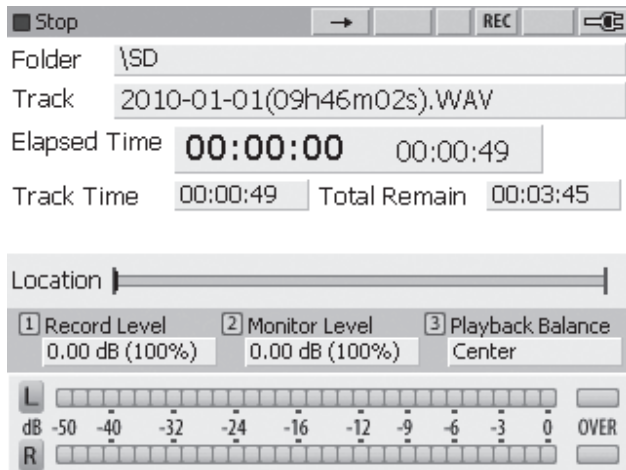
5. Set Record Level - For most applications, the Record Level should be set to the default value of 0dB. Turn FUNCTION ADJUST #1 (4A) to adjust Record Level. Press FUNCTION ADJUST #1 (4A) to return Record Level to 0dB.



Computer Connection

By connecting the PSD410 to a PC or Mac, you can transfer music to and from a computer for editing or data backup.

1. Confirm that the PSD410 is in Stop Mode and the Normal Screen is active before entering USB mode. If menu screens are active, the PSD410 will not enter USB Mode.

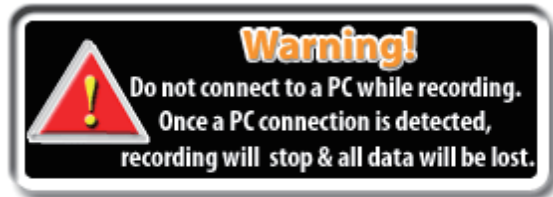
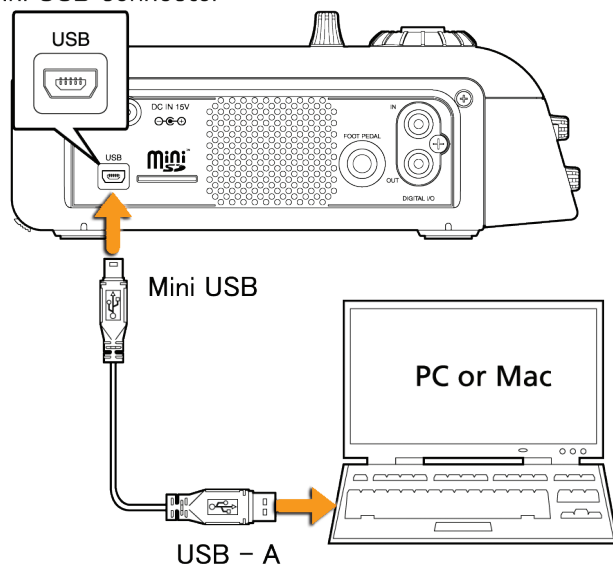


✘ When in USB Mode, all other features will be inactive.

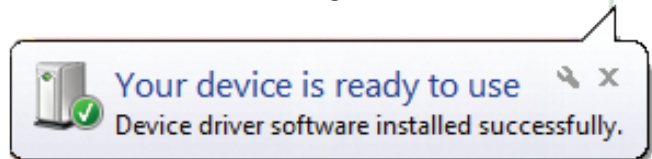
2. Use the included USB cable to connect the PSD410 to your computer.

✘ Do not connect to a PC or Mac before powering on the PSD410.

Mini USB connector

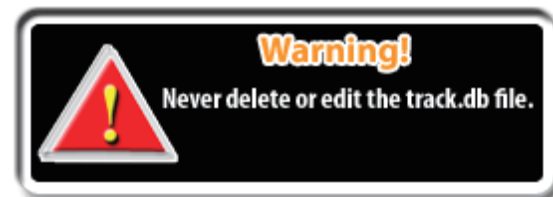


3. The PSD410 should be recognized as an external hard drive without having to install a new driver.



4. Locate the PSD410 in your computer's directory. Copy, move, and delete files using your computer's operating system.

✘ When the PSD410 is connected to a computer, the file "track.db" will appear in the PSD410's file directory. If this file is edited or deleted, you may lose access to your audio files and settings.



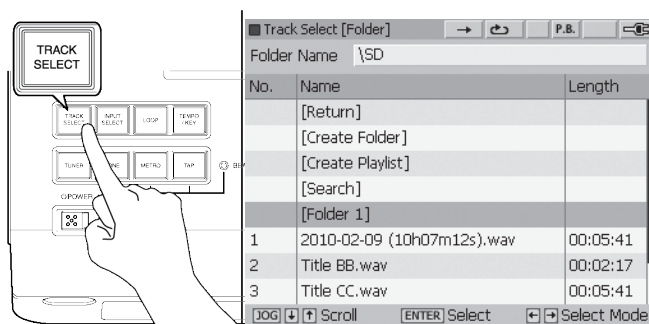
Working With Files and Folders

Selecting Tracks

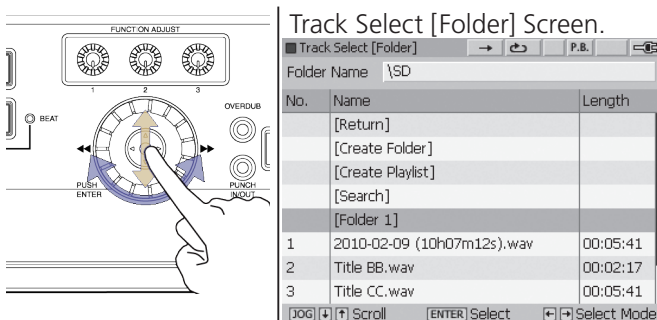
The PSD410 offers several methods for locating a track for playback, editing, or for use as accompaniment when overdubbing.

Searching Folders

1. Press the TRACK SELECT button to view all files, folders, and playlists on the SD card.

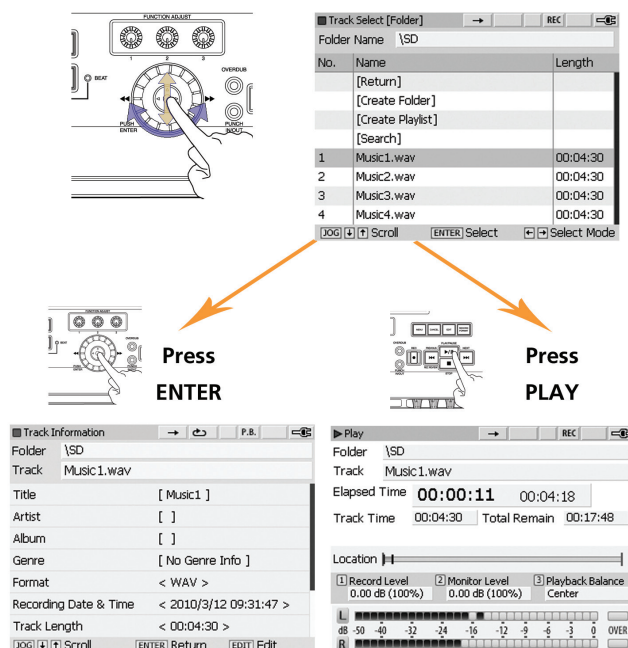


2. All newly recorded files will appear in the main folder. Turn the jog wheel or move the joystick up or down to highlight tracks or subfolders. Sub folders will appear in brackets, e.g., [sub folder 1]. To search the contents of a sub folder, either turn the jog wheel or move the joystick up or down to highlight a sub folder.



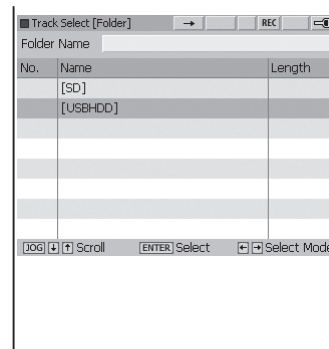
3. Press ENTER to view the contents of the selected folder.

✳ When a track is highlighted in the Track Select Screen, push ENTER to view or edit track information. Press the Play/Pause button (8C) to begin playback.



Search a USB Device

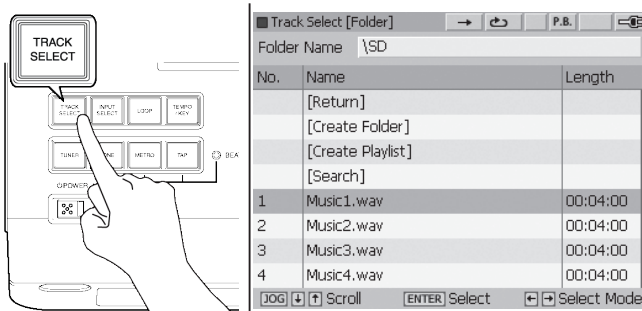
To search the contents of an attached USB storage device, select [Return] on the Track Select [Folder] screen and press ENTER. Select [USBHDD] and press ENTER. The contents of the attached USB storage device will now be displayed.



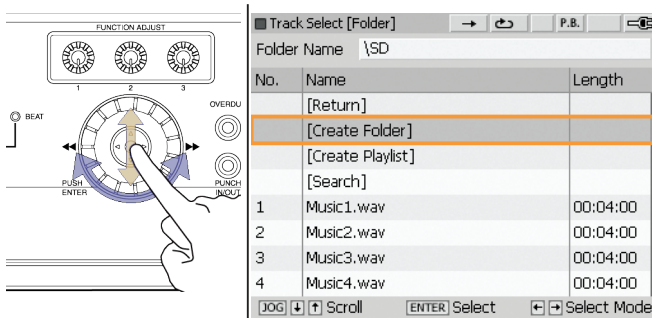
Create a Folder

Use the following steps to organize files into a new folder.

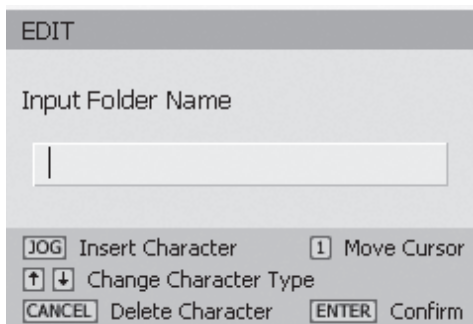
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



2. Turn the jog wheel or move the joystick up or down to highlight [Create Folder]. Press ENTER



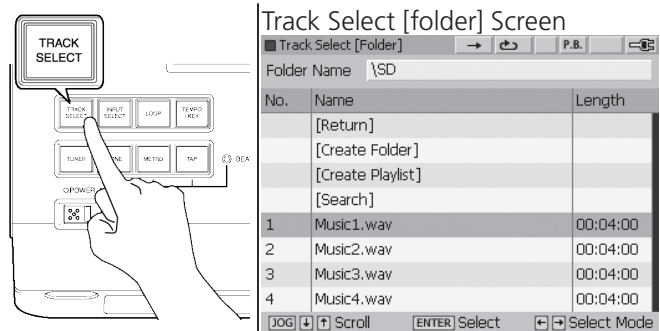
3. Enter the name of the new folder by using the [Text Input Method](#).



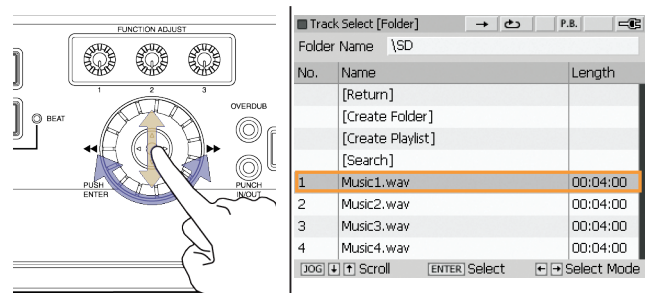
Rename

Use the following steps to rename folders or tracks. The PSD410 will not allow you to use the same name as another file or folder in the same location.

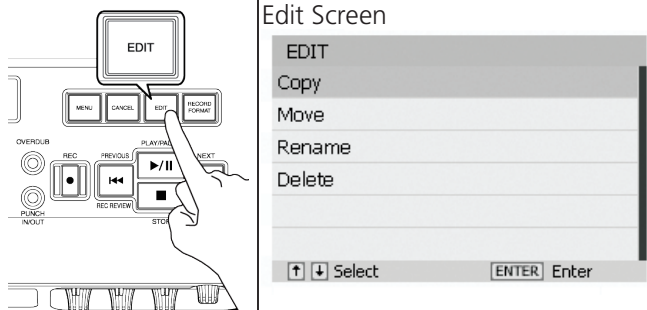
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



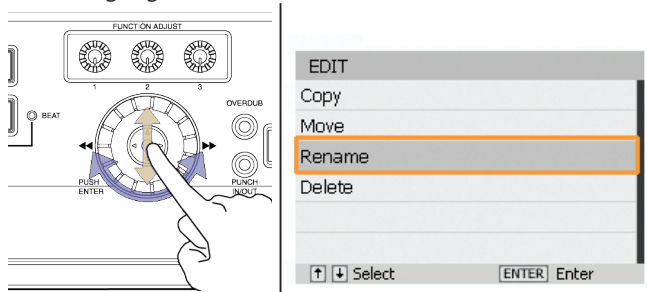
2. Turn the jog wheel or move the joystick up or down to highlight the folder or file you wish to rename.



3. Press the EDIT button.



4. Turn the jog wheel or move the joystick up or down to highlight Rename. Press ENTER.

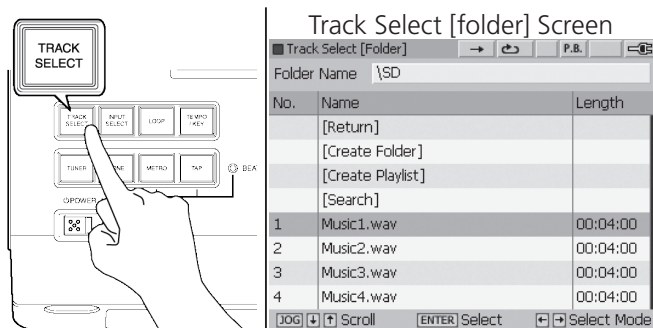


5. Enter the name of the new folder by using the [Text Input Method](#).

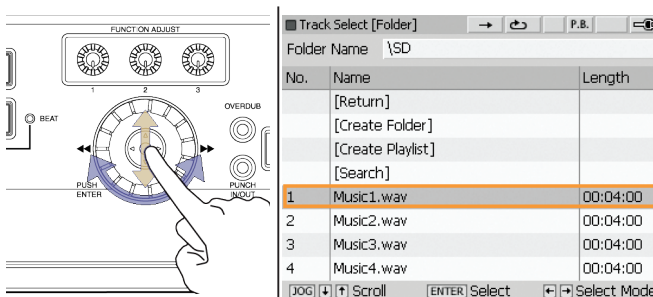
Create a Playlist

Use the following steps to create a playlist (M3U file format).

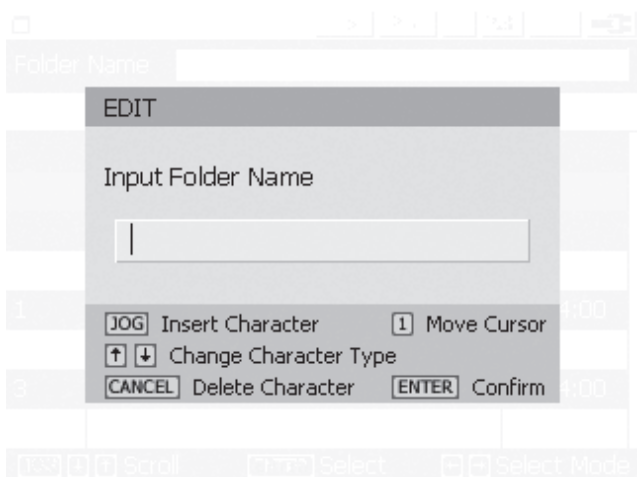
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



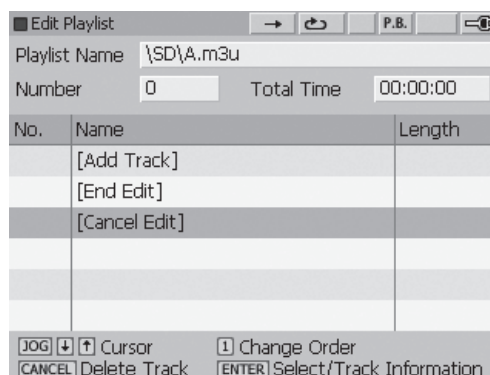
2. Turn the jog wheel or move the joystick up or down to highlight [Create Playlist]. Press ENTER.



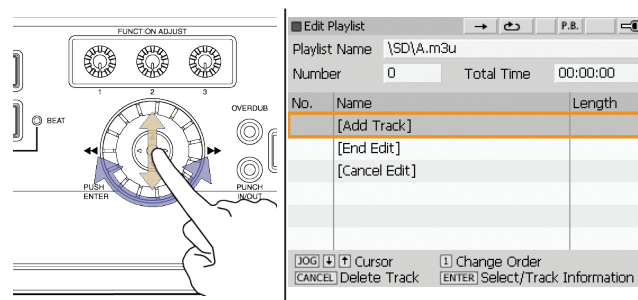
3. Enter the name of the new folder by using the [Text Input Method](#).



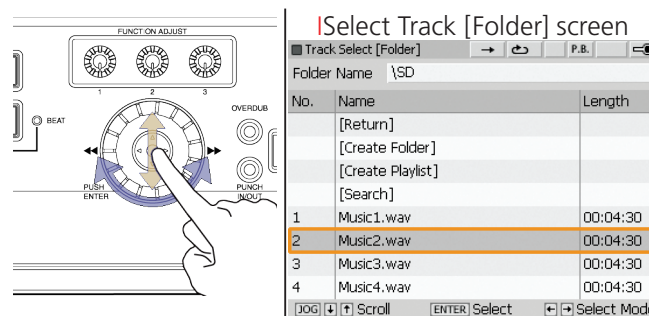
4. When you have finished naming your new playlist and pressed ENTER to confirm the new title, the Edit Playlist screen will appear.



5. Turn the jog wheel or move the joystick up or down to highlight [Add Track]. Press ENTER.



6. The Select Track [Folder] screen will appear. Turn the jog wheel or move the joystick up or down to highlight a track. Press ENTER to add the selected track to the playlist.



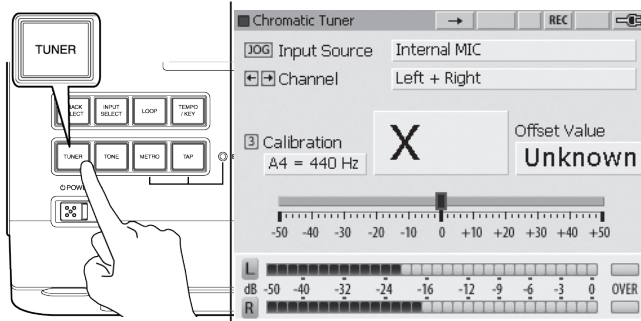
Music Practice

How to Use the Tuner

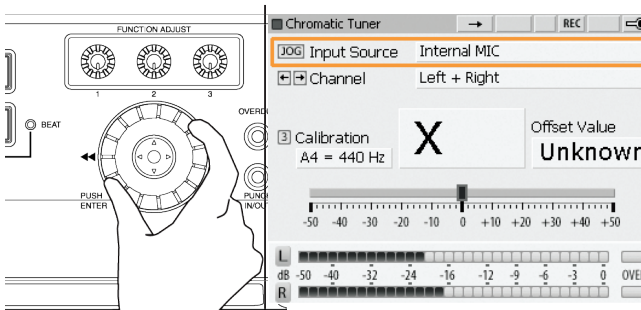
The PSD410 provides two options for tuning instruments: a chromatic tuner (range=A0 ~ C8) and a tone generator (default=440Hz).

Using the Chromatic Tuner

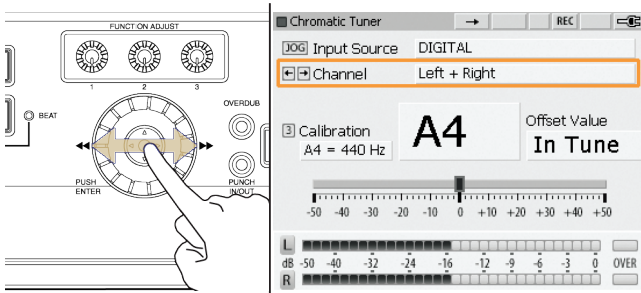
1. Push the TUNER button to open the chromatic tuner screen.



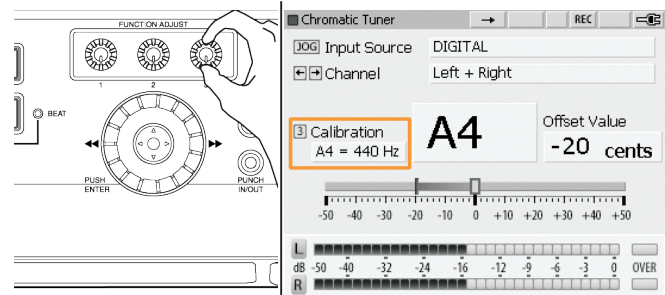
2. Turn the jog wheel to select the Input Source.



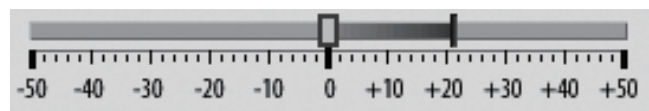
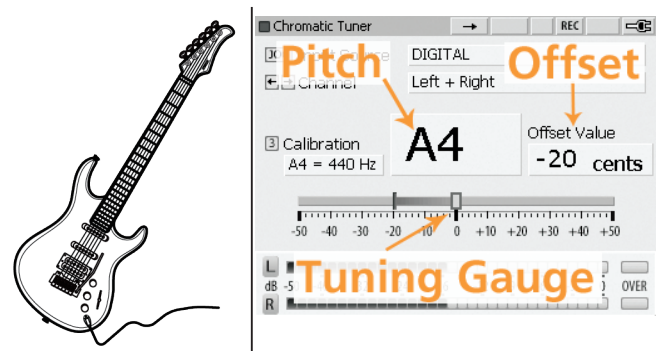
3. Move the joystick left or right to select the Input Channel. Specifying an Input Channel improves tuning accuracy by preventing interference from other channels. For example, if you are using one microphone connected to Input L/1, select Input Source: External MIC, Channel: Left.



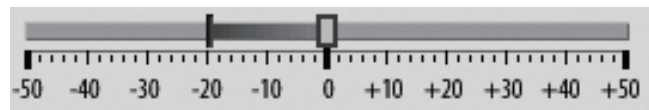
4. By default, the chromatic tuner is calibrated to A4=440Hz. The tuner can be calibrated to any frequency between 430Hz and 460Hz by turning FUNCTION ADJUST #3 (4C).



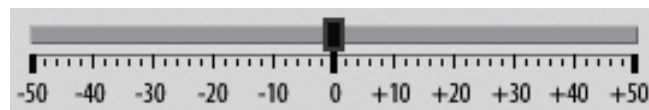
5. As you play a note on your instrument, the closest musical pitch will be displayed along with an Offset Value showing how flat or sharp the note is (+/- 50 cents). Tune your instrument until the tuning gauge is centered and the Offset Value displays "In Tune."



Tuning gauge indicating "Sharp"



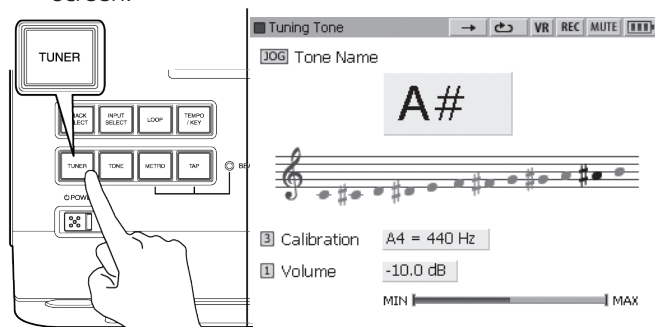
Tuning gauge indicating "Flat"



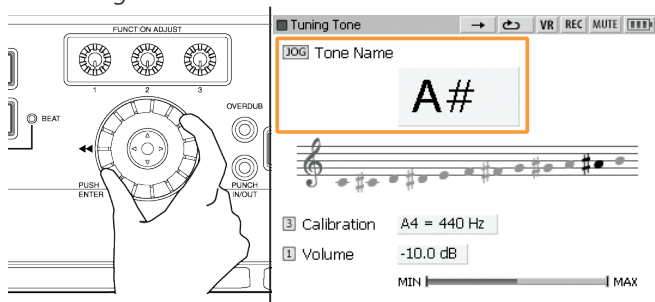
Tuning gauge indicating "In Tune"

Using the Tuning Tone

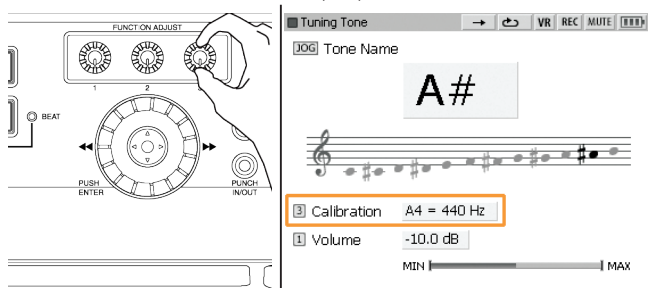
1. Push the Tone button (2E) to open the Tuning Tone screen.



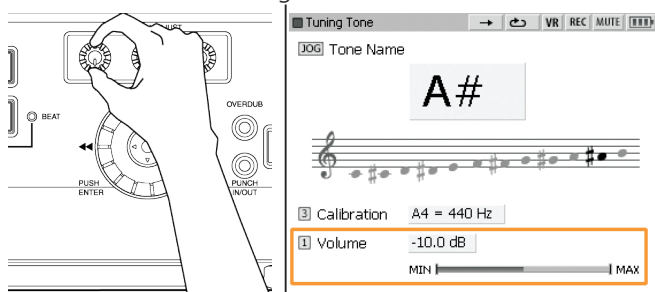
2. Turn the jog wheel to select the frequency of the tone generator.



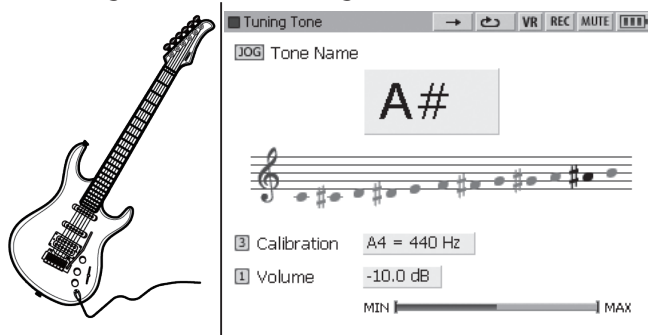
3. By default, the tone generator is calibrated to A4=440Hz. The tuner can be calibrated to any frequency between 410Hz and 470Hz by turning FUNCTION ADJUST #3 (4C).



4. Turn FUNCTION ADJUST #1 (4A) to adjust the volume of the tone generator.



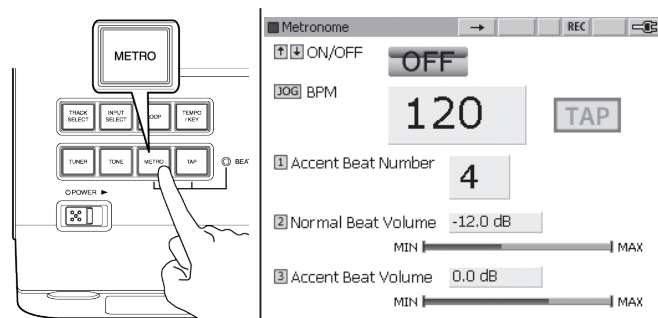
5. All notes are displayed in concert pitch. Tune your instrument to match Tone Name displayed on the Tuning Tone screen. Tuning Tone Screen



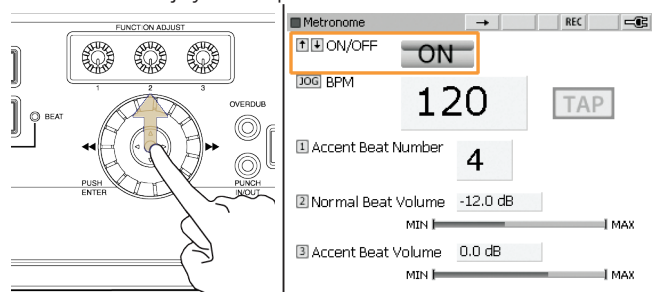
Using the Metronome

The metronome signal can be heard through the line outputs, headphones or built-in speaker.

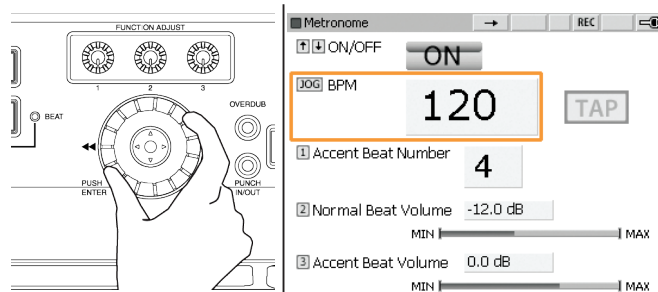
1. Press the METRO button or the TAP button to open the Metronome screen.



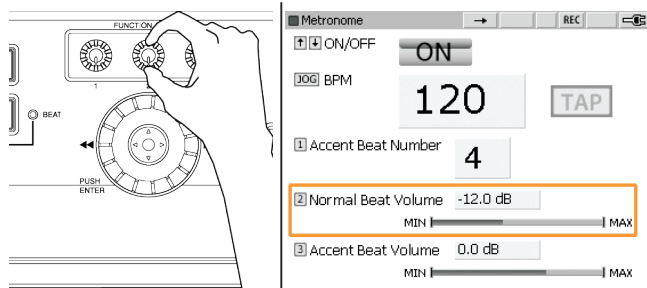
2. Move the joystick up to turn the metronome ON.



3. Turn the jog wheel to adjust tempo. Tempo can be set between 35BPM and 250BPM.



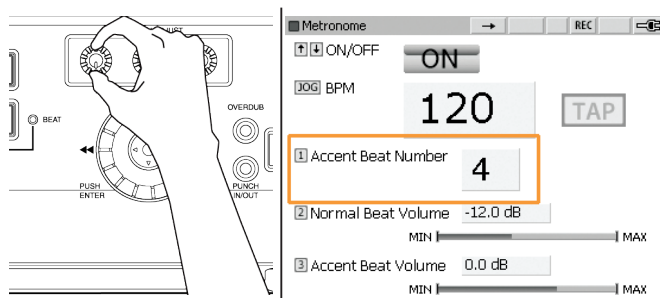
- Turn FUNCTION ADJUST #2 (4B) to adjust the volume of the metronome.



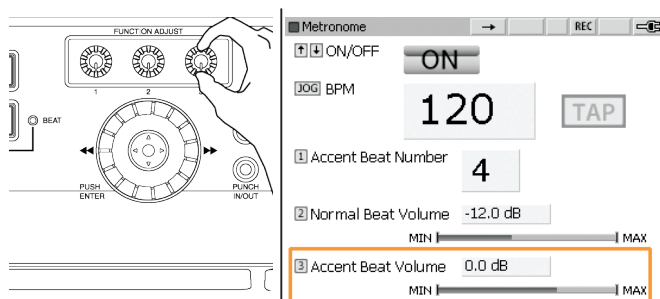
Adjusting Accent Beat and Accent Beat Volume

By designating a particular beat to play louder than other beats, the PSD410 metronome is able to imply different rhythmic meters. For instance, setting the Accent Beat Number to 3 will cause every third beat to sound louder than the other two. At moderate tempos, this will create a waltz feel. Adjusting the Accent Beat Volume will determine how much louder the Accent Beat will sound over the non-accented beats.

- Turn FUNCTION ADJUST #1 (4A) to set an Accent Beat Number. Select beat 1-7 or '0' for no accent beat. Press FUNCTION ADJUST #1 (4A) to return the Accent Beat Number to the default setting (4).



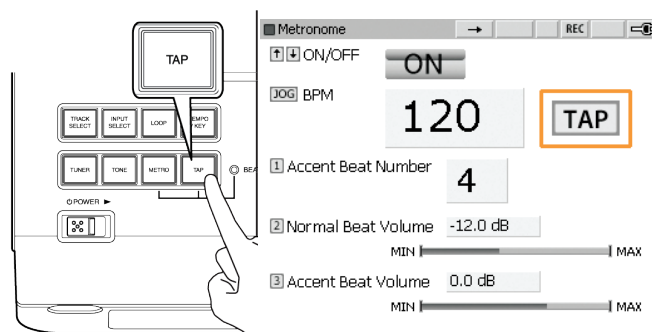
- Turn FUNCTION ADJUST #3 (4C) to set the volume of the accent beat. Press FUNCTION ADJUST #3 (4C) to return the Accent Beat Volume to the default setting (0.00dB).



Using Tap Tempo

Metronome Tempo can also be determined by pressing the TAP button.

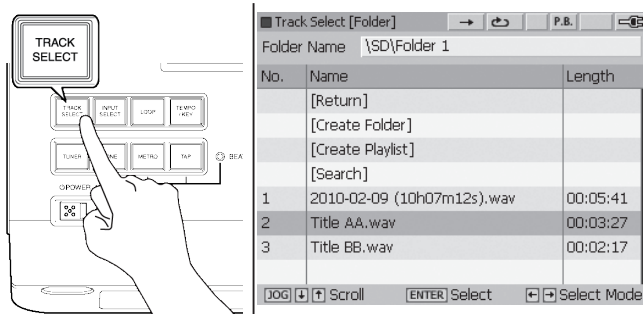
Press the TAP button at the desired tempo a minimum of 6 times to adjust the BPM setting of the metronome. The LED flashes on and off according to the BPM setting of the metronome. The LED will flash green for normal beats and red for accent beats.



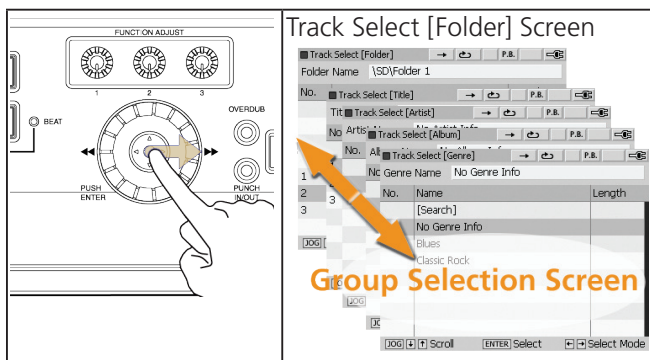
Filtering by Title, Artist, Album, and Genre

The PSD410 allows you to create, view, or edit a file's tag information (e.g., title, album). You are also able to search for files by four key tags: Title, Artist, Album, or Genre.

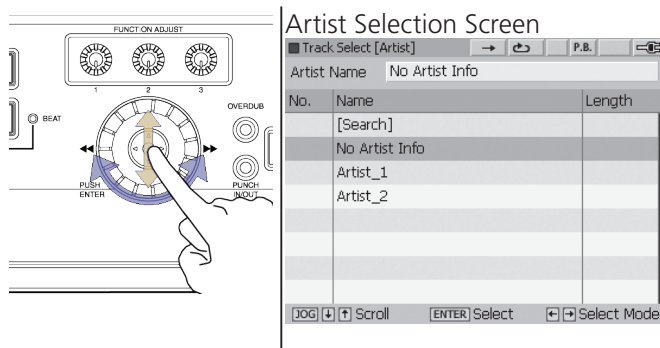
1. Press the TRACK SELECT Key to launch the Track Select [Folder] screen.



2. Push the joystick to the right to view the four Group Selection Screens. These screens will filter the audio files on your SD card or USB storage device by tag information: Title, Artist, Album, and Genre.



3. Move the joystick up or down or turn the jog wheel to select a track from any Group Selection Screen. Move the joystick right or left to switch between the Group Selection Screens: Title, Artist, Album, and Genre.

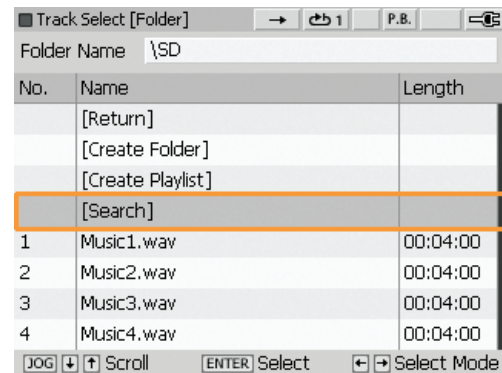


✱ When a track is highlighted in a Group Selection Screen, push ENTER to view or

edit track information. Press the Play/Pause button (8C) to begin playback. Track Select [Folder] Screen

Using the [Search] Feature

At the top of the Track Select [Folder] screen and each Group Selection screen, you will see the [Search] option.

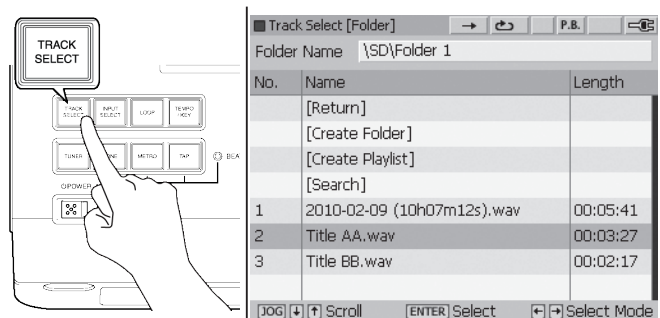


Use this feature to filter the contents of the current screen by typing in keywords for the File name, Title, Artist, Album, or Genre you are searching for.

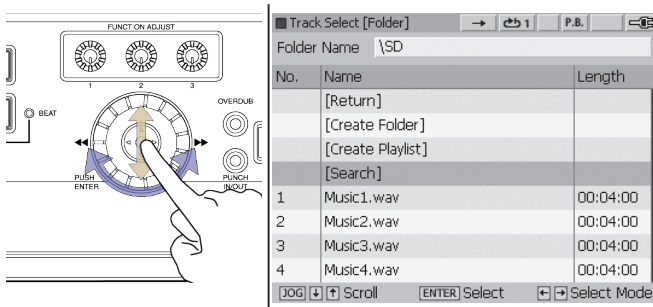
✱ The [Search] feature will only filter the contents of the currently selected screen. For example, using [Search] on the Title screen will only search Title information.

Use the following procedure when searching for files. The same procedure is used when searching for titles, artists, albums, or genres.

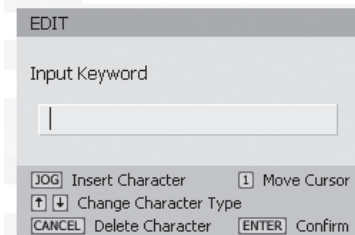
1. Press the TRACK SELECT Key to open the Track Select [Folder] screen.



- Turn the jog wheel or move the joystick up or down to highlight [Search], and then press ENTER.



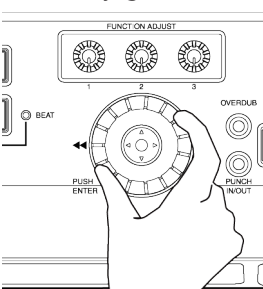
- Use the **Text Input Method** below to type the file name or part of the file name you are searching for.



Text Input Method

Enter Characters

Turn the jog wheel to enter characters.

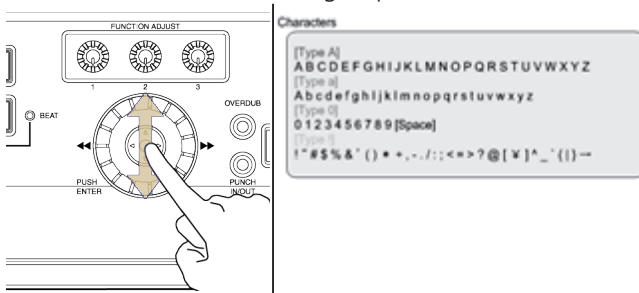


Textbox

|A

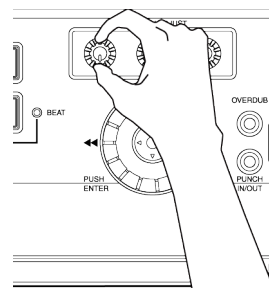
Change Character Type

Move the joystick up or down to change character types. The four different character groups are shown below.



Move the Cursor

Use FUNCTION ADJUST # 1 (4A) to move the cursor to a new character.



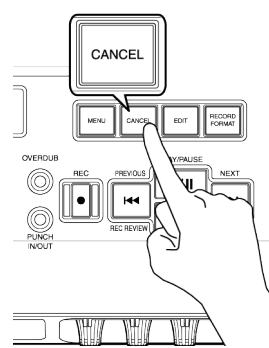
Textbox

A|

Cursor

Delete a Character

Press the CANCEL button to delete a character.



① Move the Cursor

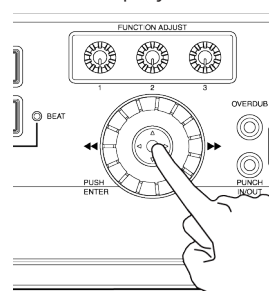
A|

② Press the CANCEL button to delete a character

|

Confirm Entry

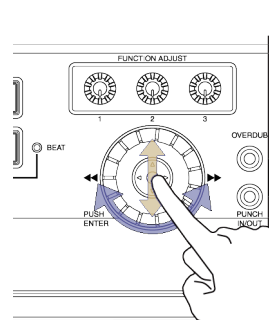
When you are finished entering text, press the joystick to ENTER. When the search is complete, the search results will be displayed.



Textbox

Track001 |

Move the joystick up or down or turn the jog wheel to select a track from the Search Result [Folder] screen.



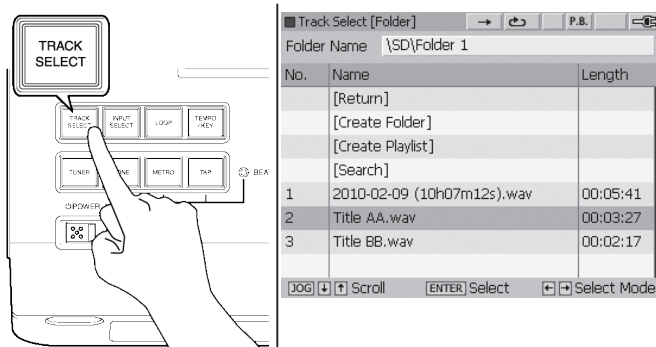
Search Result [Folder] screen.

Search Result [Folder]		
Folder Name \SD		
No.	Name	Length
	[Create Folder]	
	[Create Playlist]	
	[Search]	
1	Music1.wav	00:04:00

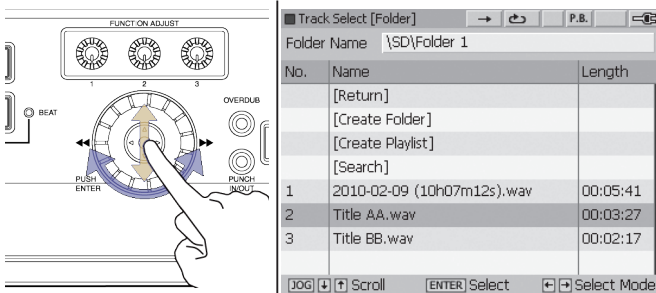
Play

The PSD410 can play WAV or MP3 files located on a mini SD card or USB storage device.

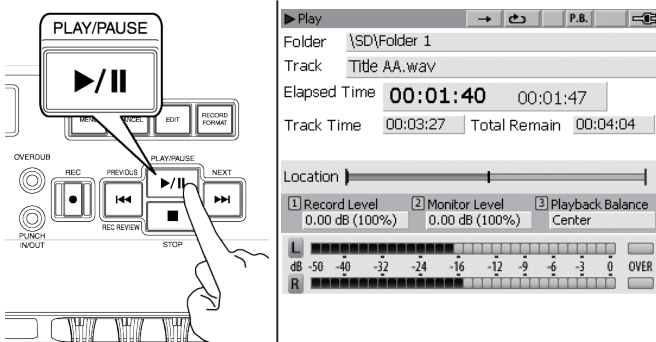
1. Power the unit on and insert a mini SD card containing WAV or MP3 files (see [Set Up](#)).
2. Press the TRACK SELECT button to open the Track Select [Folder] screen.



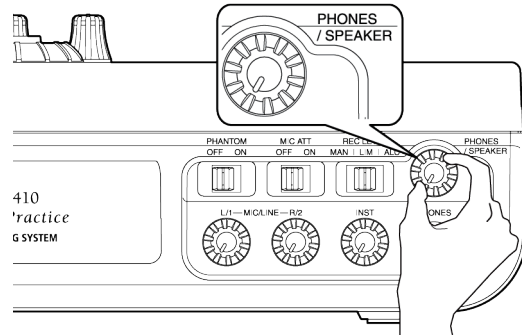
3. Turn the jog wheel or move the joystick up or down to highlight track for playback.



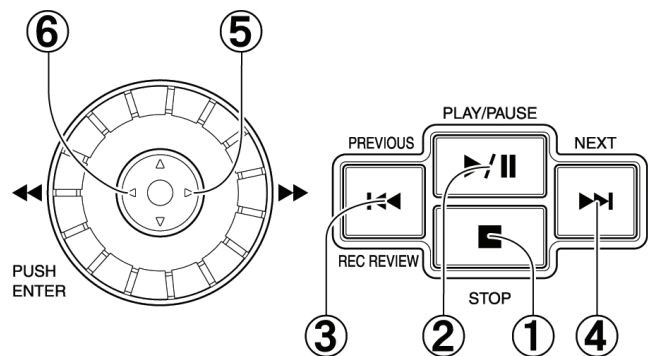
4. Press the PLAY/PAUSE button (8C) to play the selected track.



5. Turn the **21** PHONES/SPEAKER knob to adjust the volume of the speaker or headphones.



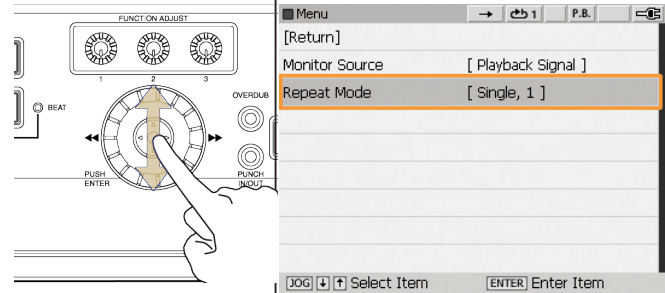
Playback Operation



Button	Function
1 STOP	Press to stop playback. Playback location returns to the beginning of the track.
2 PLAY/PAUSE	<ul style="list-style-type: none"> From Stop Mode, press to begin playback. From Pause Mode, press to resume playback from the pause location. From Play Mode, press to pause playback.
3 PREVIOUS	Press during playback to return to the start of the track. Press the Previous button within the first two seconds of playback to return to the start of the previous track. Press during Stop Mode to return to the start of the previous track.

④ NEXT	Press to begin playback at the beginning of the next track.
⑤ Fast Forward	Hold the joystick to the right to begin audible high-speed searching.
⑥ Fast Rewind	Hold the joystick to the left to begin audible high-speed backward searching.

- Use the jog wheel or joystick to highlight "Repeat Mode" and then press ENTER.

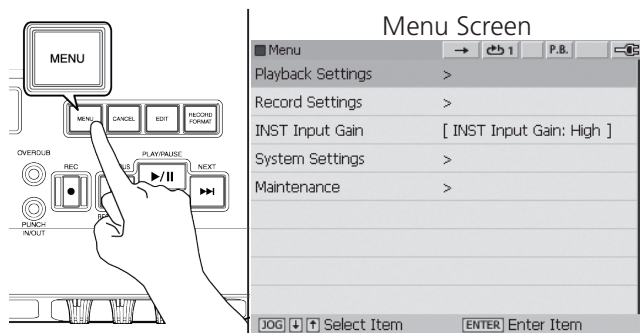


Playback Modes

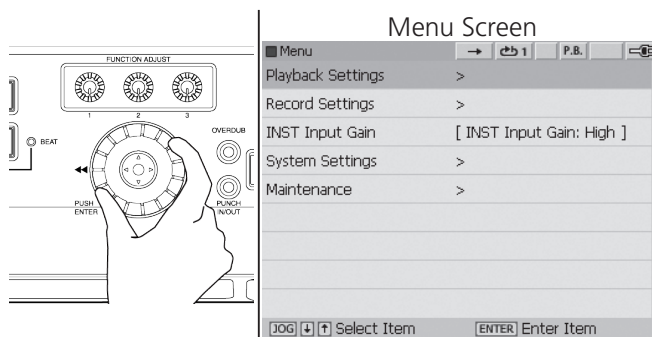
In Normal operation, playback continues to the next track as soon as the current track is finished playing.

The PSD410 contains several alternative playback modes to accommodate a variety of situations. Follow these steps to select a new playback (repeat) mode.

- Press the Menu button to open the Menu screen.



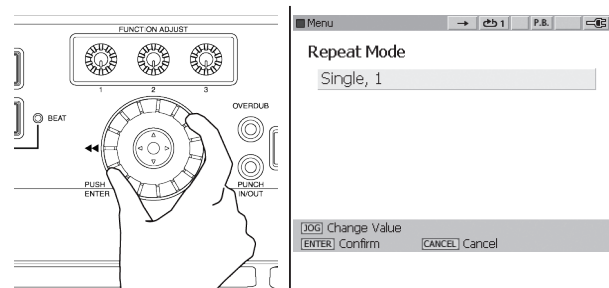
- Use the jog wheel or joystick to highlight Playback Settings and then press ENTER.



Repeat Modes

OFF	Normal operation. When a track is finished playing, playback continues to the next track.
All	All songs in a given folder play repeatedly
1	The current track will play repeatedly.
Single, 1	The current track plays once before playback stops at the beginning of the current track.
Single, All	All songs in a given folder play once before playback stops at the beginning of the first track.
Single	The current track plays once before playback stops at the beginning of next track.

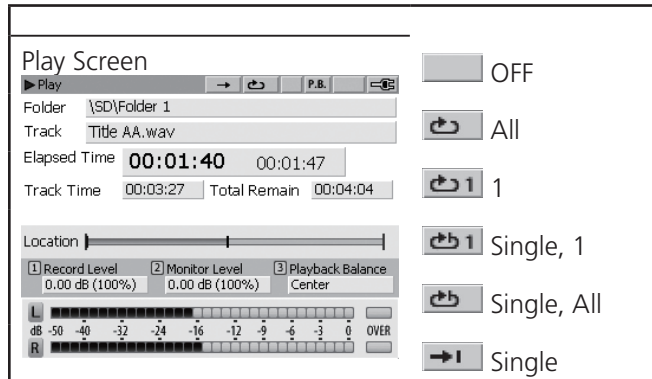
- Select a Repeat Mode by turning the jog wheel. Press ENTER to confirm the selection.



To cancel the setting, press the CANCEL button.

5. Press the Menu button to exit.

The following Repeat icons will be displayed when the corresponding Repeat Mode is selected:

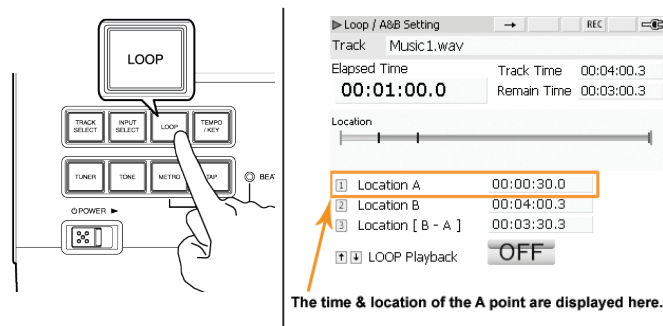


A-B Loop (Repeat Playback)

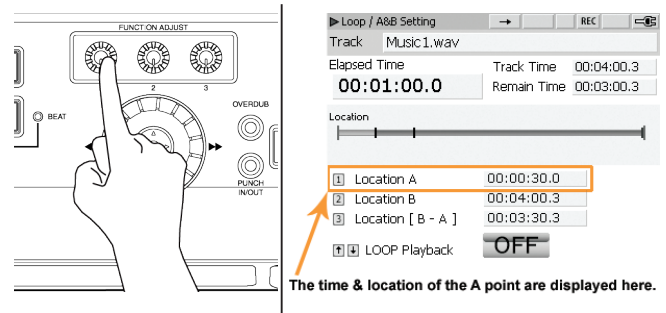
Use the A-B Loop function to play a section of audio repeatedly. The procedure below is also used when determining In/Out points for Overdub and Punch In/Out.

Set the A Point

1. During playback, press the LOOP button to open the Loop/ A&B Setting screen.

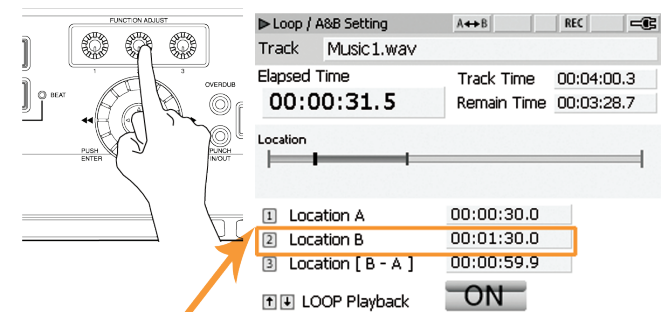


2. When you hear the point at which the loop should begin, press **FUNCTION ADJUST #1(4A)**.



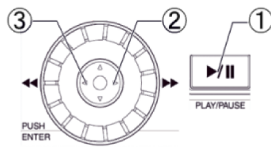
Set the B Point

1. When you hear the point at which the loop should end, press **FUNCTION ADJUST #2 (4B)**. When the B point is set, **LOOP Playback** begins automatically.

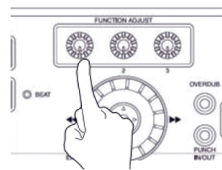


✖ The time and location of the B point is displayed here.
The bottom row of the Loop screen displays the total loop time (Location [A-B]).

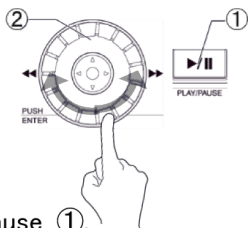
Use the following controls during Loop Mode to locate A and B points.



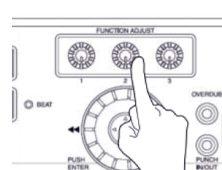
Play ①, ② forward search
③ backward search



Press to set A point



Pause ①,
② Rotate the jog wheel
for fast advance/rewind
during Pause Mode

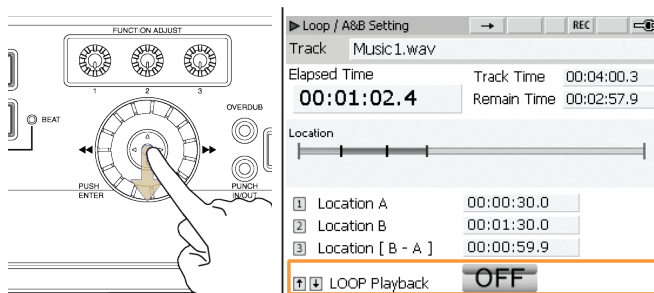


Press to set B point

✘ To fine adjust the A point, turn FUNCTION ADJUST #1 (4A). To fine adjust the B point, turn FUNCTION ADJUST #2 (4B). Turn FUNCTION ADJUST #3 (4C) to reposition the A and B point at the same time.

The A and B points for each track are stored on the SD card, so the next time you access the selected track, the same loop points should appear.

Moving the joystick down will switch to normal playback (LOOP Playback OFF). Moving the joystick up will resume A-B Repeat playback (LOOP Playback ON).



Delete a Loop Point

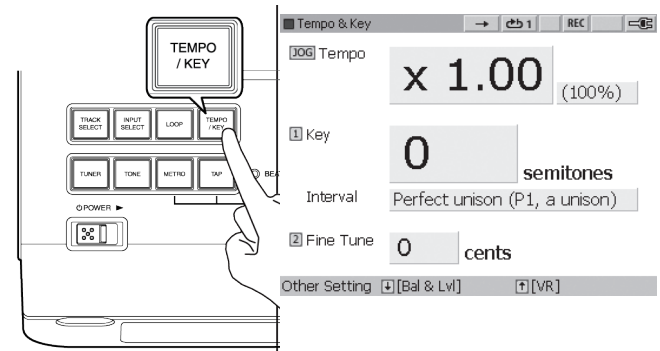
1. Push and hold FUNCTION ADJUST #1 (4A) to reset the A point the beginning of the track (0:00).
2. Push and hold FUNCTION ADJUST #2 (4B) to reset the B point to the end of the track.

3. Push and hold FUNCTION ADJUST #3 (4C) to reset both the A and the B point.

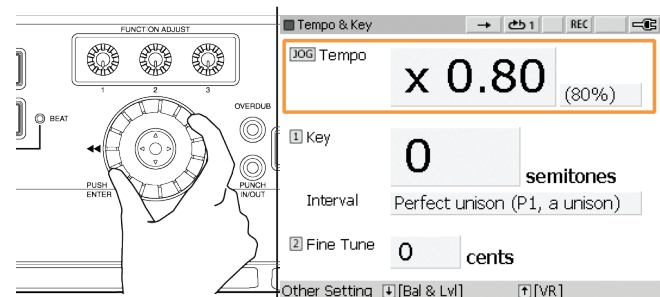
Adjusting Tempo, Key, and Fine Tune

Tempo

1. Press the TEMPO/ KEY button to open the Tempo & Key screen.

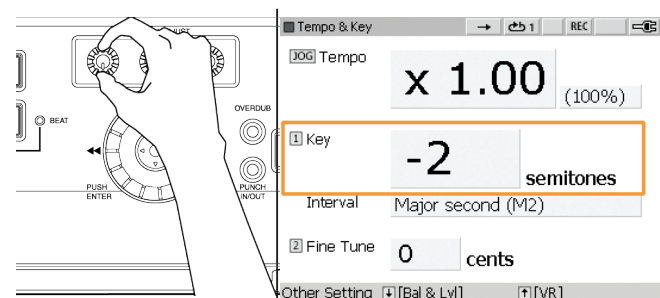


2. Turn the jog wheel to adjust Tempo (playback speed). Press ENTER to reset Tempo to normal speed. The tempo control function can modify a track's tempo (playback speed) between -75% and +50% (1% intervals) without affecting playback pitch.



Key

1. Turn FUNCTION ADJUST #1 (4A) to modify playback Key in semitones. Push FUNCTION ADJUST #1 (4A) to reset Key to normal playback (no Key adjustment). The Key adjustment range is +/-12 semitones (half steps).



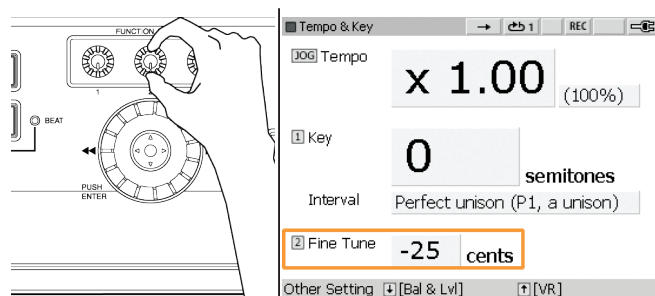
Interval Indication

The Interval indication displays the interval for the corresponding Key change in semitones.

Semitones	Interval
[0]	Perfect unison (P1, a unison)
[-1/+1]	Minor second (m2)
[-2/+2]	Major second (M2)
[-3/+3]	Minor third (m3)
[-4/+4]	Major third (M3)
[-5/+5]	Perfect fourth (P4)
[-6/+6]	Tritone (TT)
[-7/+7]	Perfect fifth (P5)
[-8/+8]	Minor sixth (m6)
[-9/+9]	Major sixth (M6)
[-10/+10]	Minor seventh (m7)
[-11/+11]	Major seventh (M7)
[-12/+12]	Perfect octave (P8)

Fine Tune

Turn FUNCTION ADJUST #2 (4B) to fine tune playback pitch +/-50 cents. Push FUNCTION ADJUST #2 (4B) to reset FINE TUNE to normal pitch.

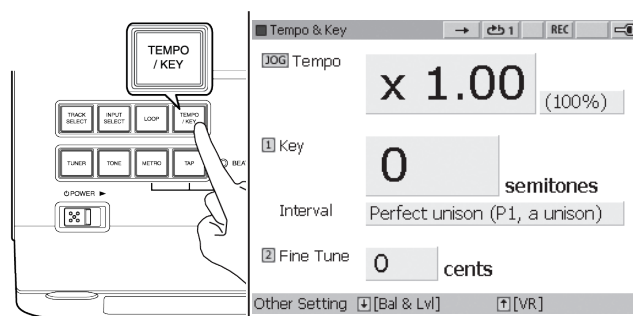


✘ When you exit the Tempo/Key screen, all settings are stored on the SD card along with the selected file.

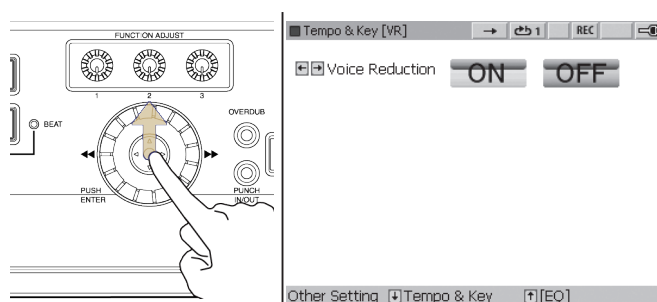
Voice Reduction

The voice reduction function is used to reduce the lead vocal performance in stereo recordings. Use this feature in conjunction with the Overdub feature to create your own karaoke-style recordings.

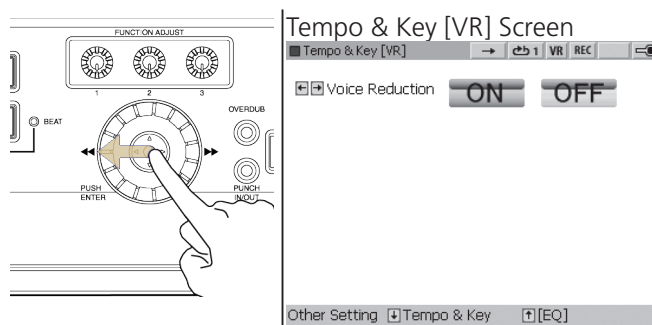
1. Press the TEMPO/KEY button to open the Tempo & Key screen.



2. Move the joystick (5A) up to view the Tempo & Key [VR] screen.



3. Move the joystick to the left to select Voice Reduction ON. A VR icon will be displayed at the top of the screen.

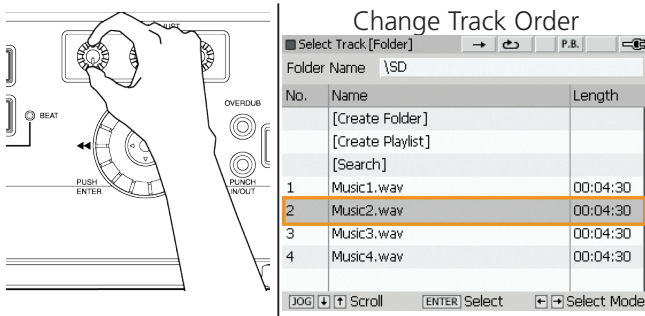


4. When a file is played, the level of the main vocal will be reduced.

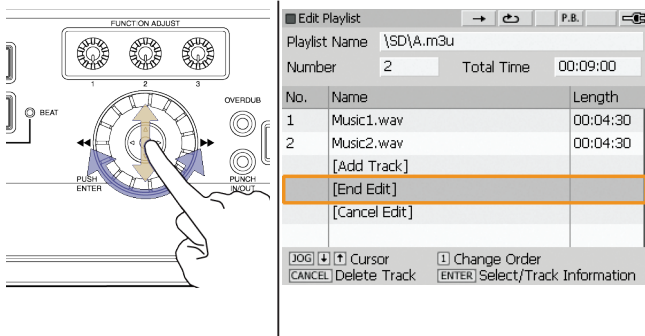
✘ The Vocal Reduction feature uses a technique called Center Channel Cancellation to reduce vocals in stereo recordings. For this feature to be effective, the main vocal performance must be positioned in the center of the stereo field (equal level in the right and left channel). Vocal Reduction will not work with vocals that are panned to the right or left channel.

Change Track Order

- Highlight a track and turn FUNCTION ADJUST #1 (4A) to change the order of tracks in a playlist.
Highlight a track and press the CANCEL button to remove the track from the playlist.



- When you have finished adding tracks to the playlist, turn the jog wheel to highlight [End Edit]. Press ENTER to save the new playlist and exit.



Editing

✱ See the [Appendix](#) section for a list of all file, folder or playlist Edit Menu Options.

Export

The Export feature has two primary functions:

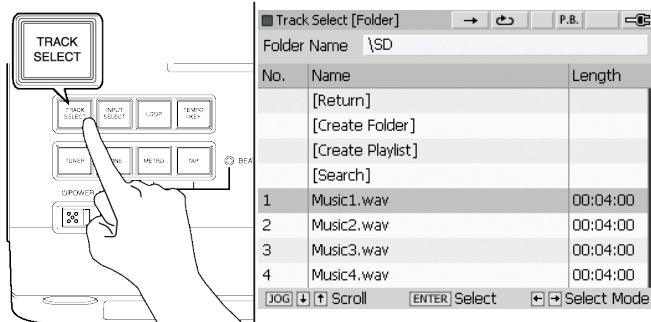
1. Creating a new file with alternative Tempo, Key, or Fine Tune settings
2. Creating a new file in a different format, i.e., creating an MP3 version of a WAV file.

The new file will always be exported to the same folder as the original.

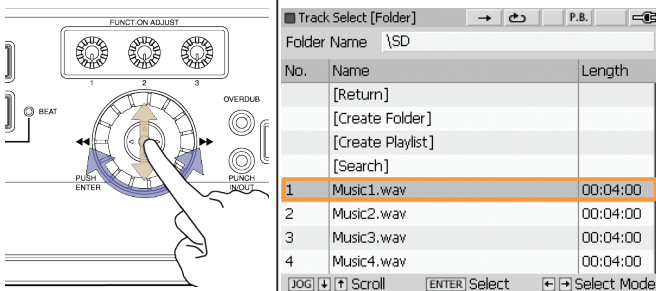
Creating a File with a New Tempo or Key

When Tempo, Key, or Fine Tune settings are altered, the new values are stored with the file. To change Tempo, Key and Fine Tune settings, see [Adjusting Tempo, Key, and Fine Tune](#). Once you have altered these settings, follow these steps to create a new file:

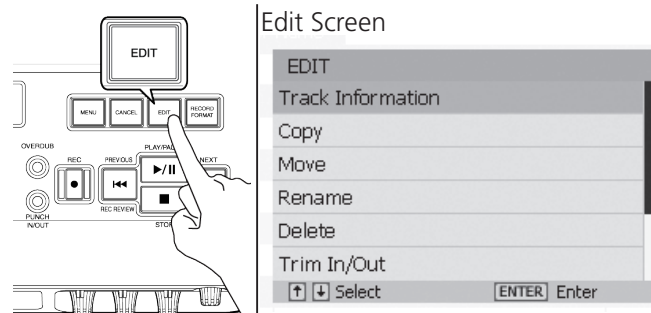
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



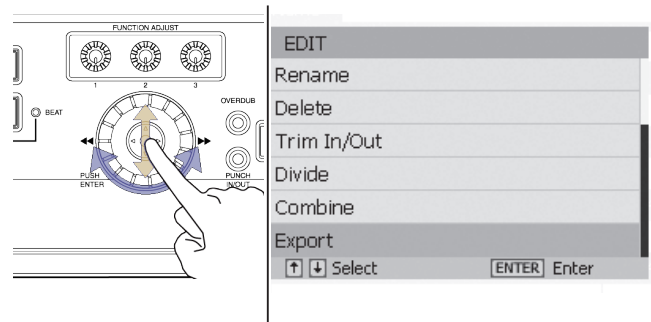
2. Turn the jog wheel or move the joystick up or down to highlight the track you wish to export.



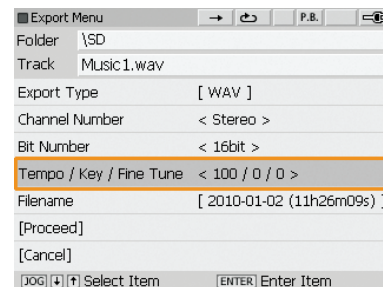
3. Press the EDIT button.



4. Turn the jog wheel or move the joystick up or down to highlight Export. Press ENTER.



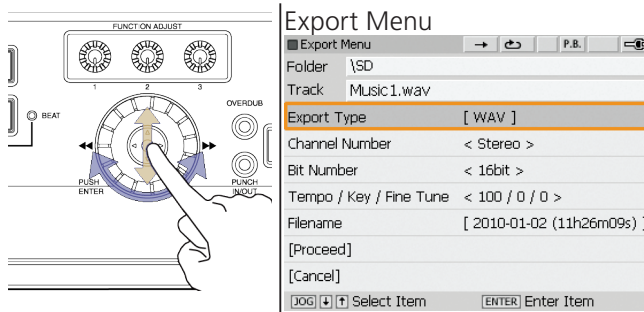
5. Confirm the Tempo, Key, and Fine Tune settings.



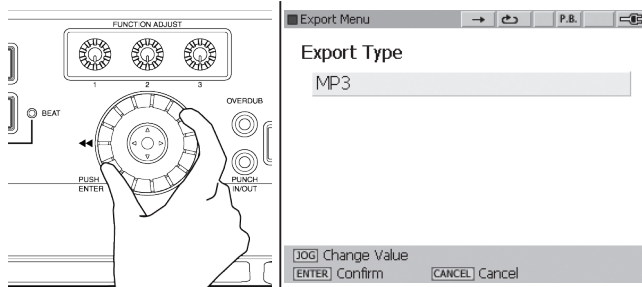
If the displayed values are correct, proceed to [Naming the Exported File](#). If not, turn the jog wheel or move the joystick down to select [Cancel]. See [Adjusting Tempo, Key, and Fine Tune](#).

Changing File Format

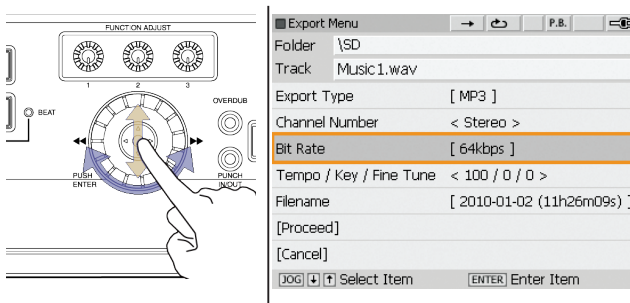
1. Turn the jog wheel or move the joystick up or down to highlight Export Type. The default setting is [WAV]. To export the selected file as MP3, press ENTER.



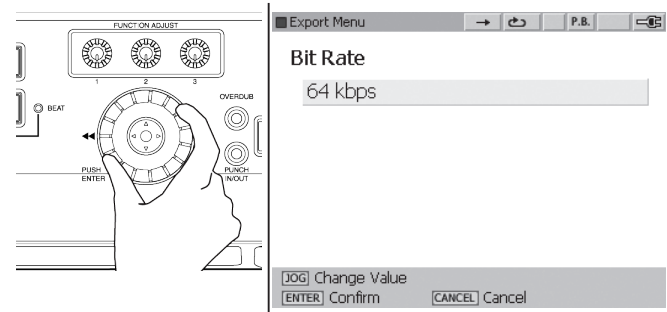
2. Turn the jog wheel to select MP3. Press ENTER to confirm the change. Export Menu Edit Screen



3. The Export Menu will be displayed. Turn the jog wheel or move the joystick up or down to select Bit Rate. Press ENTER.

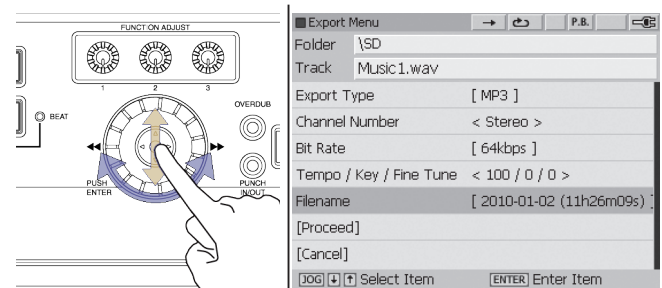


4. Turn the jog wheel to select a bit rate. Press ENTER to confirm the setting. Options include 64, 80, 96, 112, 128, 160, 192, 224, 256, or 320kbps for stereo files. When exporting mono files, options include 32, 40, 48, 56, 64, 80, 96, 112, 128, or 160kbps.

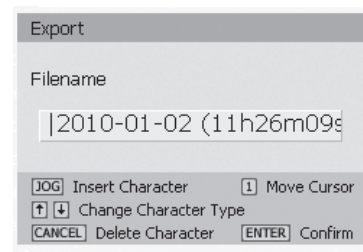


Naming the Exported File

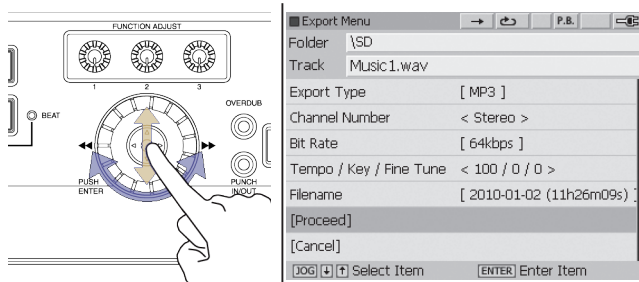
1. Turn the jog wheel or move the joystick up or down to select Filename. Press ENTER.



2. Enter the name of the new file by using the [Text Input Method](#).



- When you have finished naming the new file and pressed ENTER to confirm the new title, the Export Menu screen will appear. Turn the jog wheel to select [Proceed]. Press ENTER to begin exporting.

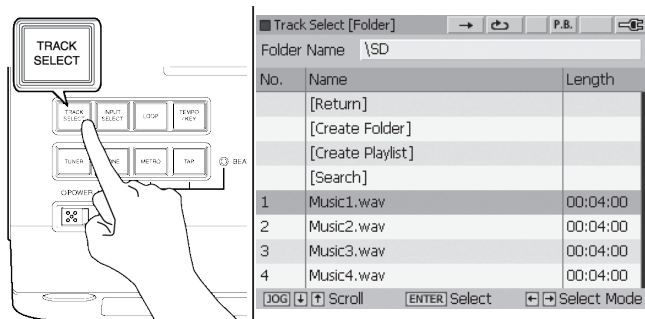


❌ A progress bar is displayed during the Export procedure. Do not power off until the procedure is complete. If power is interrupted during Export, the exported file will be lost.

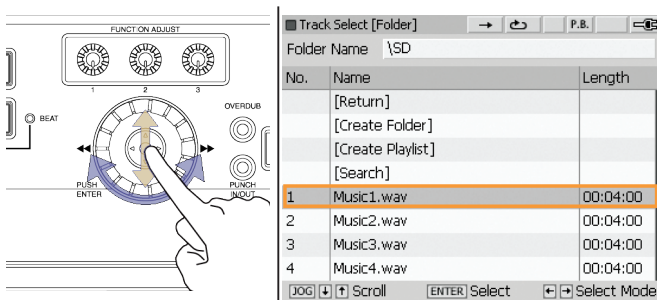
Move a Track

Use this feature to move a folder or file to another location, either a new folder or a different drive (SD or USBHDD).

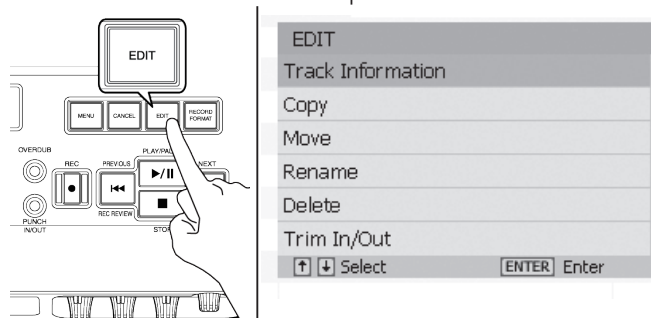
- Press the TRACK SELECT button to open the Track Select [Folder] screen



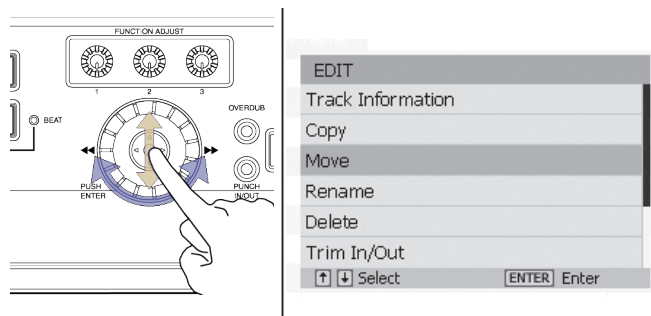
- Turn the jog wheel or move the joystick up or down to highlight the folder or file you wish to move.



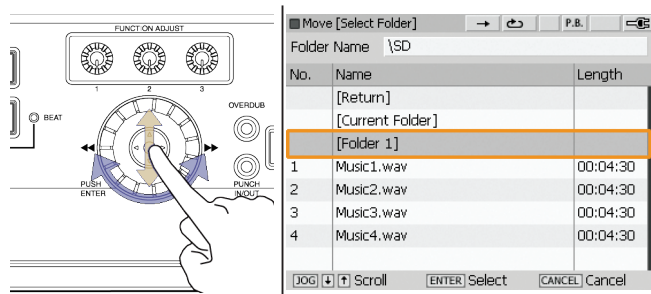
- Push the EDIT button to open the Edit menu screen.



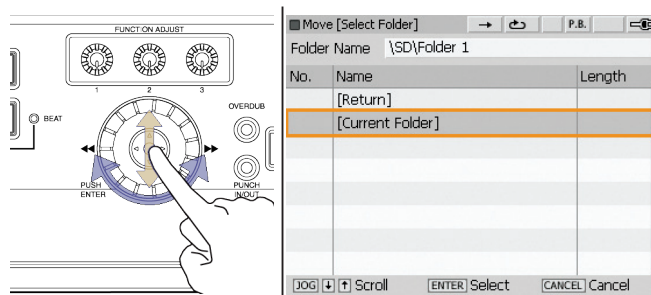
- Turn the jog wheel or move the joystick up or down to highlight Move. Press ENTER.



- Turn the jog wheel or move the joystick up or down to select the folder you wish to move the selected item to. Once you have highlighted the new location, press ENTER.



- Turn the jog wheel or move the joystick up or down to highlight [Current Folder]. Press ENTER.

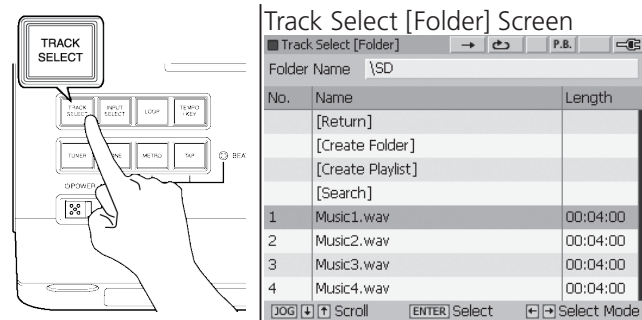


- ✘ A progress bar is displayed during the Move procedure. Do not power off until the procedure is complete. If power is interrupted during the Move operation, the file you are moving may be lost.

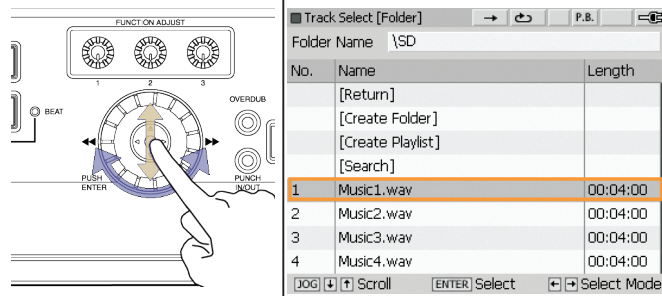
Copy a Track

Use this feature to copy a folder or file to another location, either a new folder or a different drive (SD or USBHDD).

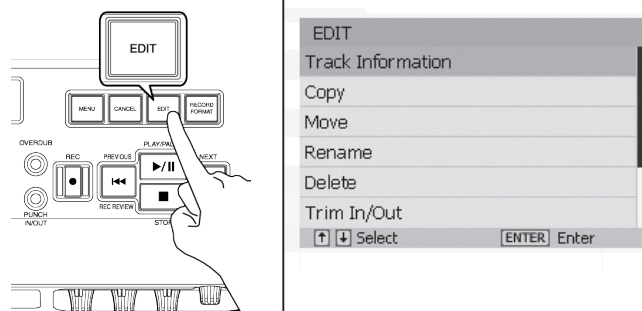
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



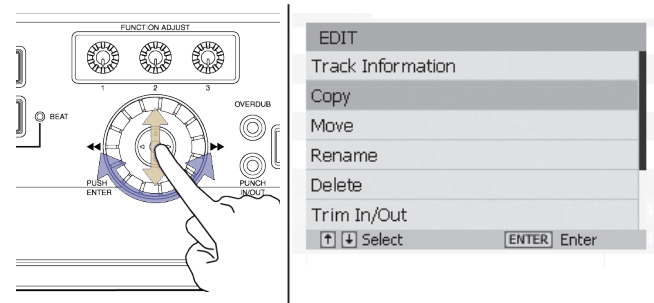
2. Turn the jog wheel or move the joystick up or down to highlight the folder or file you wish to copy.



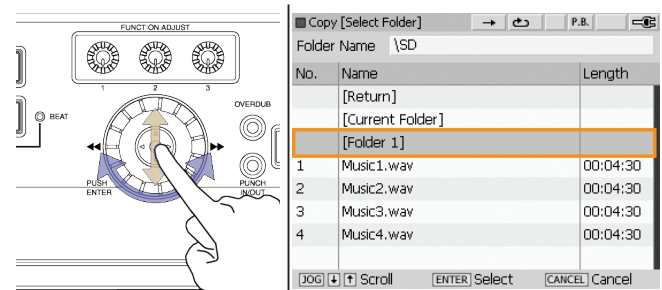
3. Push the EDIT button to open the Edit menu screen.



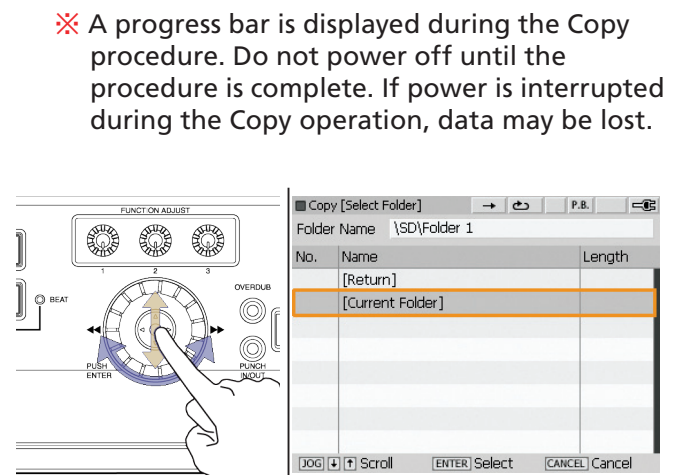
4. Turn the jog wheel or move the joystick up or down to highlight Copy. Press ENTER.



5. Turn the jog wheel or move the joystick up or down to select the folder you wish to copy the selected item to. Once you have highlighted the new location, press ENTER.



6. Turn the jog wheel or move the joystick up or down to highlight [Current Folder]. Press ENTER. Track Select [Folder] Screen Edit Screen

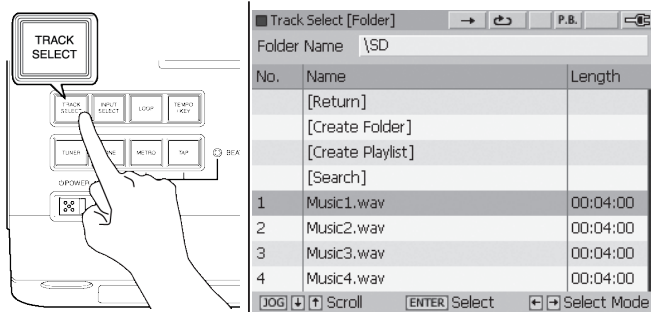


- ✘ A progress bar is displayed during the Copy procedure. Do not power off until the procedure is complete. If power is interrupted during the Copy operation, data may be lost.

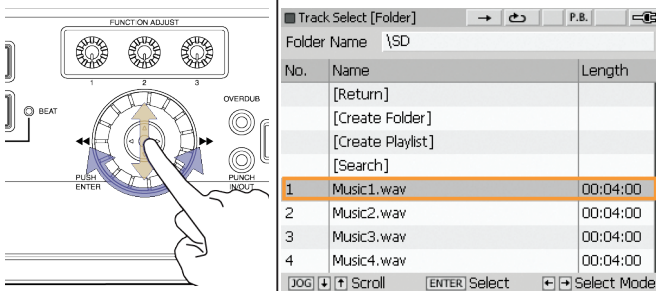
Delete a Track

Use this feature to remove a folder, playlist or audio file from any SD card or USB storage device recognized by the PSD410.

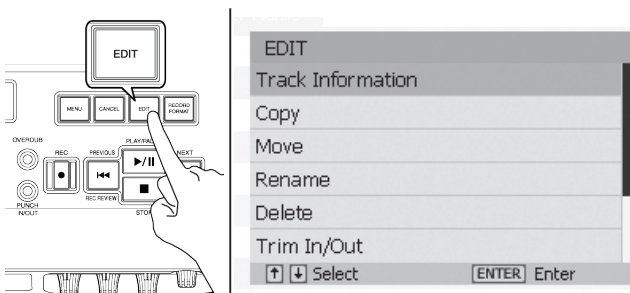
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



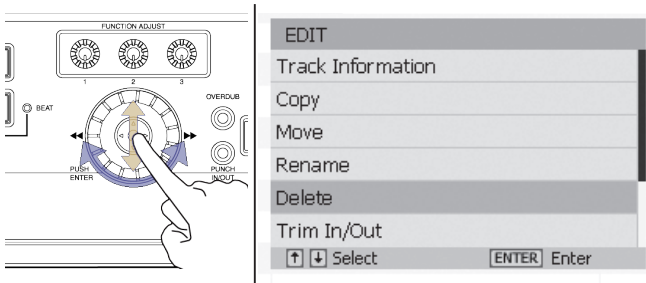
2. Turn the jog wheel or move the joystick up or down to highlight the folder or file you wish to delete.



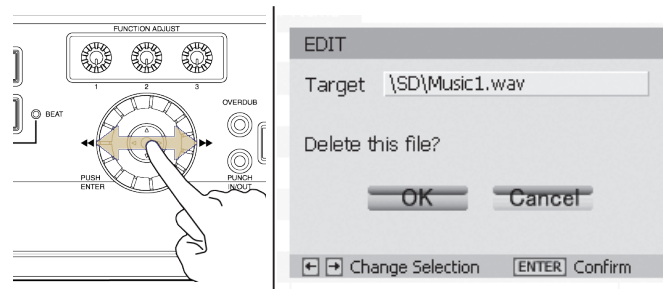
3. Push the EDIT button to open the Edit menu screen



4. Turn the jog wheel or move the joystick up or down to highlight Delete. Press ENTER.



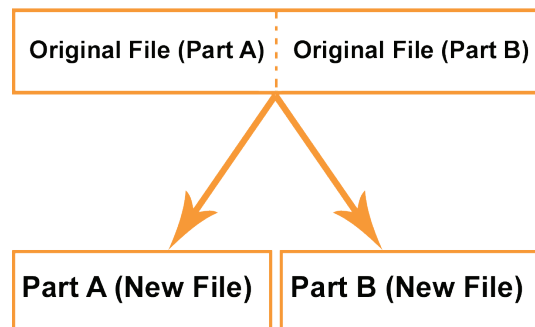
5. The Delete confirmation screen will appear. Move the joystick left to select OK and press ENTER.



✘ A progress bar is displayed during the Delete procedure. Do not power off until the procedure is complete. If power is interrupted during the Delete operation, the procedure may fail.

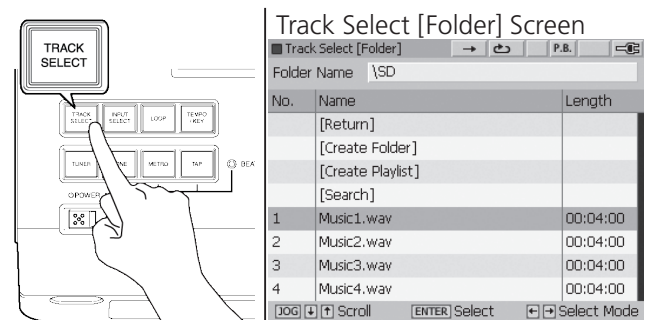
Divide a Track

Use this feature to divide a track into two separate tracks.

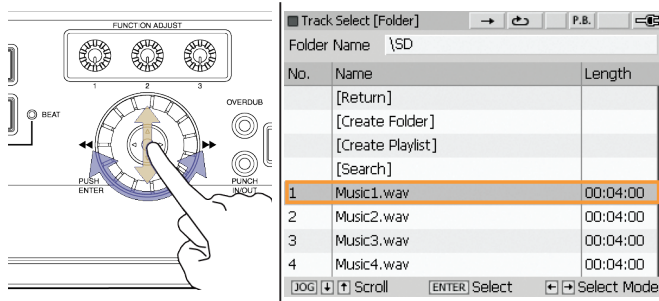


✘ This features works with WAV files only. If you wish to divide an MP3 file, convert the file to WAV format first before using the Divide feature (see [Export](#)). Each new file must be more than 4 seconds.

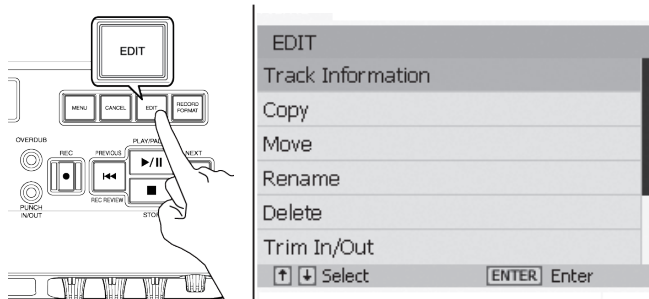
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



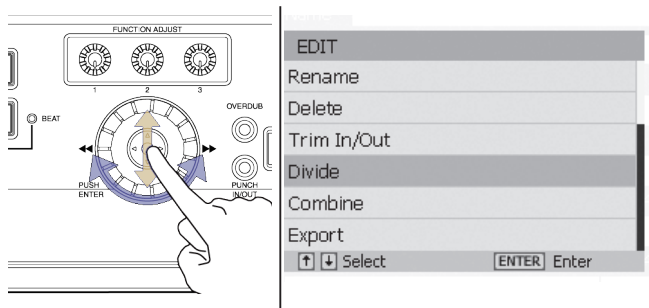
- Turn the jog wheel or move the joystick up or down to highlight the folder or file you wish to divide.



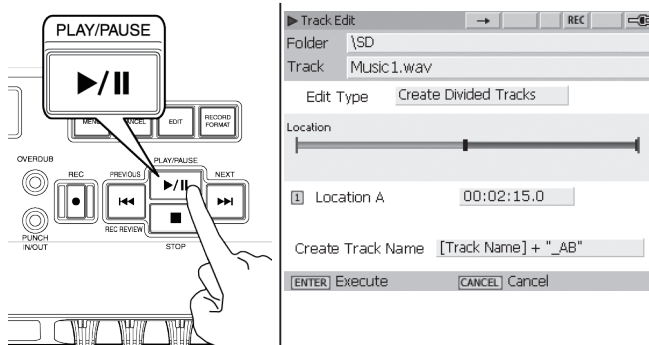
- Push the EDIT button to open the Edit menu screen.



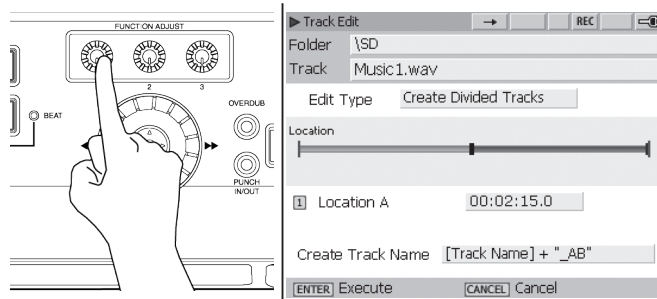
- Turn the jog wheel or move the joystick up or down to highlight Divide. Press ENTER.



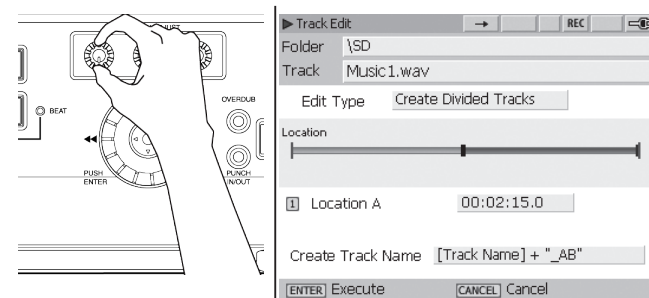
- The Divide screen will be displayed. Press the PLAY/PAUSE button [8C] to begin playback



- When you hear the point at which you want to divide the track, press FUNCTION ADJUST #1 (4A). Playback will loop the 4 seconds before the Divide point.



- You can fine-adjust the divide point by turning FUNCTION ADJUST #1 (4A).



- Press the ENTER to divide the track.

The two new files will be placed in the same folder as the original track.

The new files will be named according to the following format:

Original file = 'Track01. wav'

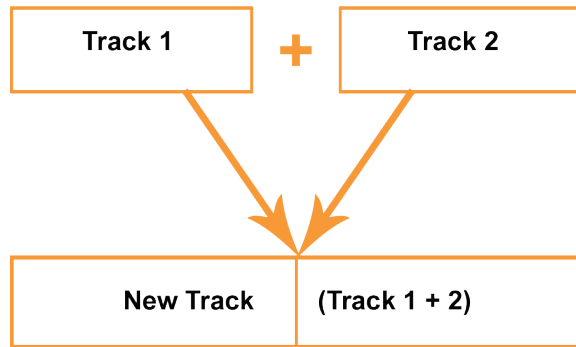
Part A (before Divide point) = 'Track01_A.wav'

Part B (after Divide point) = 'Track01_B.wav'

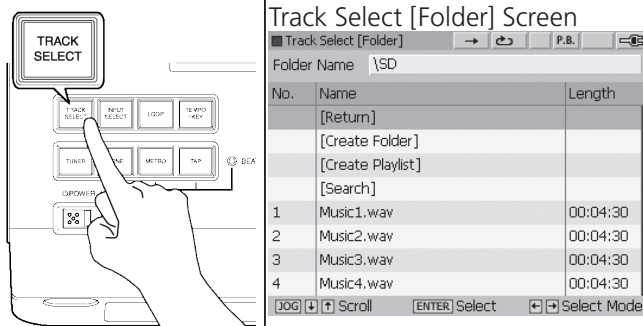
A progress bar is displayed during the Divide procedure. Do not power off until the procedure is complete. If power is interrupted during the Divide operation, the new files may be lost.

Combine a Track

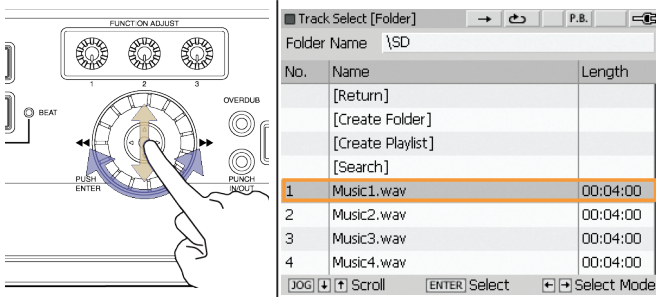
Follow these steps to combine two audio files into one file.



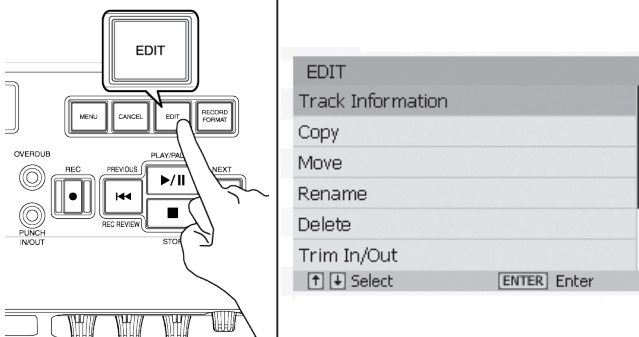
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



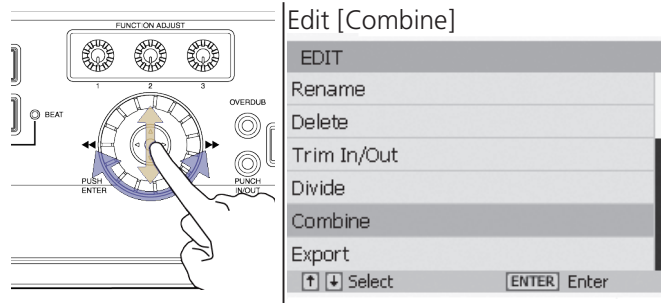
2. Turn the jog wheel or move the joystick up or down to highlight the file you wish to combine (this track will become the first part of the combined file).



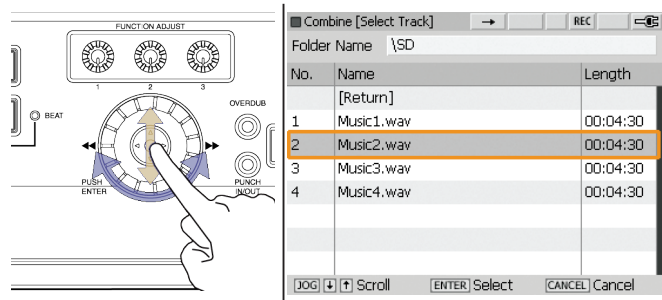
3. Push the EDIT button to open the Edit menu screen.



4. Turn the jog wheel or move the joystick up or down to highlight Combine. Press ENTER.



5. The Combine [Select Track] screen will be displayed. Turn the jog wheel or move the joystick up or down to highlight the file you wish to combine (this track will become the second part of the combined file). Press ENTER.



The new file will be placed in the same folder as track 1 (the first track selected during the Combine procedure). The new file will be named according to the following format:

Part A (first file selected) = 'TrackA.wav'
Part B (second file selected) = 'TrackB.wav'

Combined file = 'TrackA_001.wav'

A progress bar is displayed during the Combine procedure.

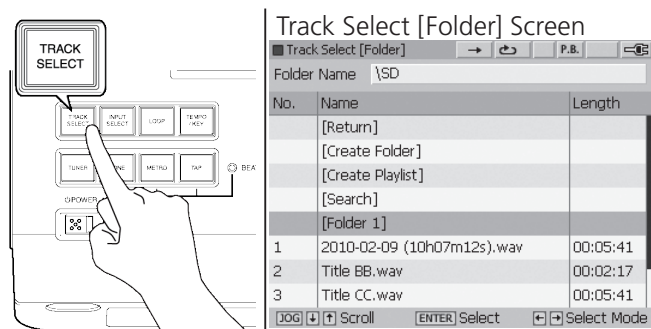
Do not power off until the procedure is complete. If power is interrupted during the Combine operation, the new file may be lost.

Trim In / Out

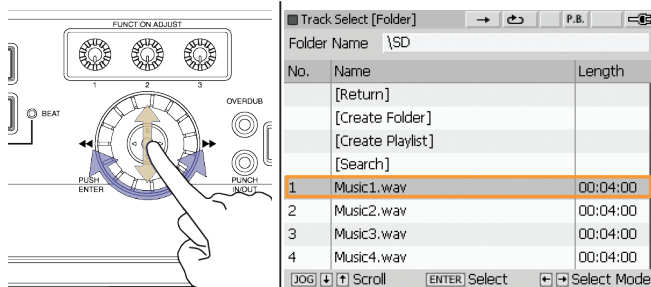
✘ This feature works with WAV files only. If you wish to divide an MP3 file, convert the file to WAV format first before using the Divide feature (see [Export.](#)). Each new file must be more than 4 seconds.

Use this feature to remove unnecessary audio at the beginning or end of track.

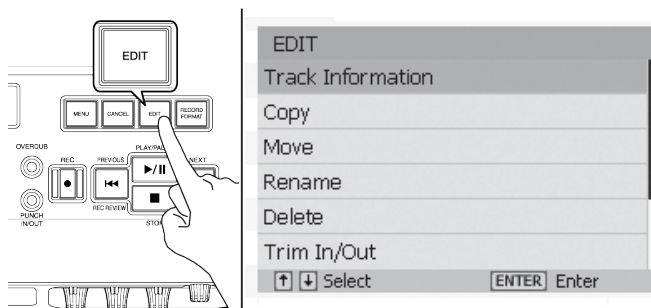
1. Press the TRACK SELECT button to open the Track Select [Folder] screen.



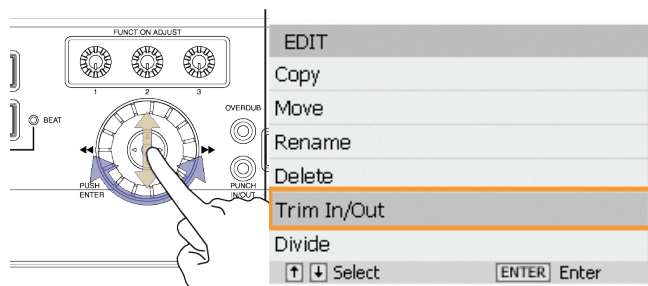
2. Turn the jog wheel or move the joystick up or down to highlight the file you wish to trim.



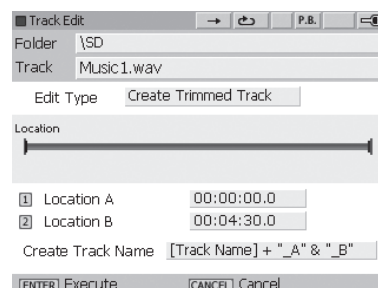
3. Push the EDIT button to open the Edit menu screen.



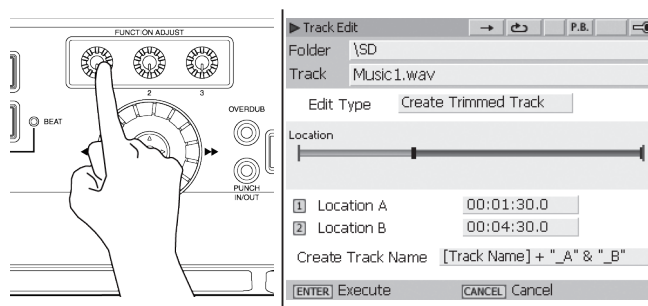
4. Turn the jog wheel or move the joystick up or down to highlight Trim In/Out. Press ENTER.



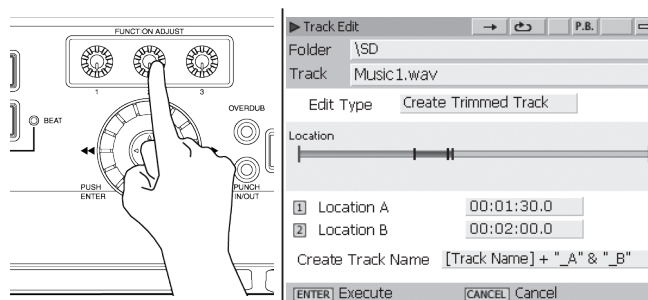
5. The Trim In/Out screen will be displayed. Press the PLAY/PAUSE button [8C] to begin playback



6. When you hear the point at which you want to trim, press FUNCTION ADJUST #1 (4A). Playback will loop the 4 seconds after the Trim point. Audio from the beginning of the track to this point will be removed.



7. Press FUNCTION ADJUST #2 (4B) to switch playback to the second trim point. Audio from this point to the end of the track will be removed. Playback will loop the 4 seconds before the Trim point.



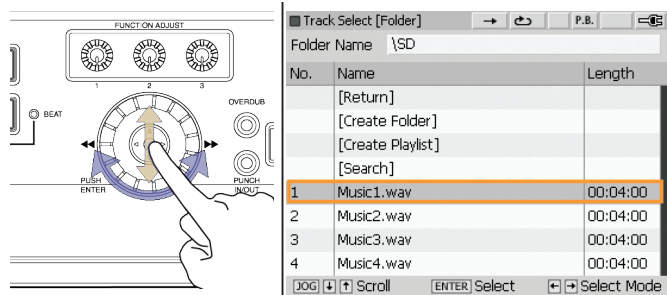
- You can fine-adjust the first Trim point by turning FUNCTION ADJUST #1 (4A). Fine-adjust the second Trim point by turning FUNCTION ADJUST #2 (4B).
- Press the ENTER to trim the track.

The new file will be placed in the same folder as the original track. The new file will be named according to the following format:

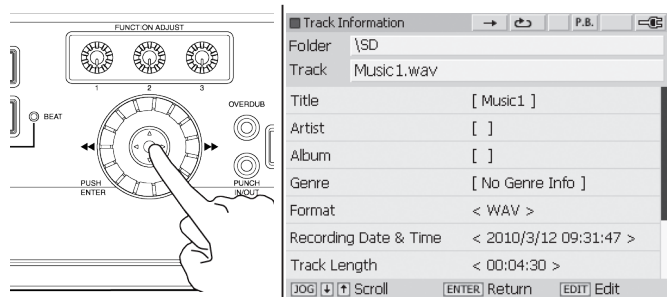
Original file = 'TrackA.wav'
Trimmed file = 'TrackA_001.wav'

A progress bar is displayed during the Trim procedure.

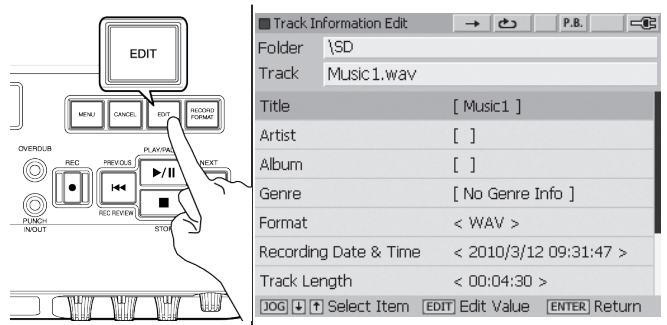
Do not power off until the procedure is complete. If power is interrupted during the Trim operation, the new file may be lost.



- Press ENTER to view the file's track information.



- Press the EDIT button to begin editing track information.



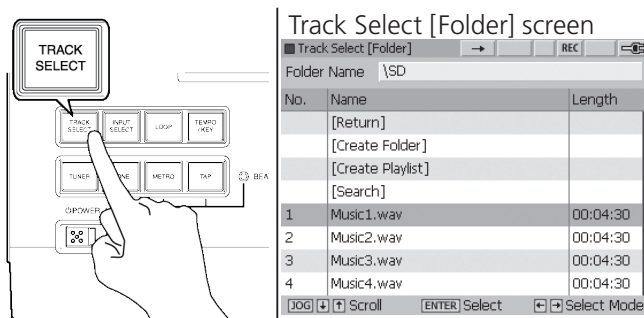
Edit Track Information

Whenever a file is selected in the Track Select screen or the Normal screen, simply press ENTER to view Track Information.

The following information is stored with each file: Title, Artist, Album, Genre, Format, Recording Date & Time, Track Length, Channel Number, Sampling Rate, and Bit Number/Bit Rate.

Follow these steps to edit a track's Title, Artist, Album, and Genre information:

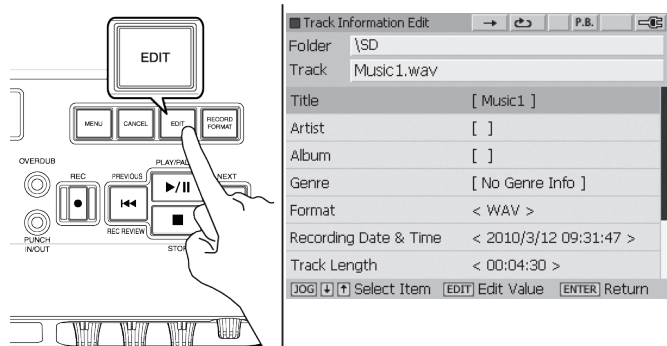
- Press the TRACK SELECT button to open the Track Select [Folder] screen.



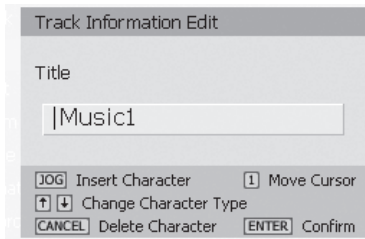
- Turn the jog wheel or move the joystick up or down to highlight the file you wish to edit

Title/Artist/Album

- From the Track Information Edit screen, turn the jog wheel or move the joystick up or down to highlight Title. Press the EDIT button to change the title.



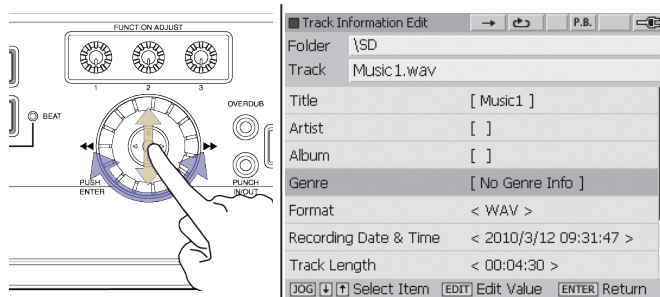
2. Enter the new title by using the [Text Input Method](#).



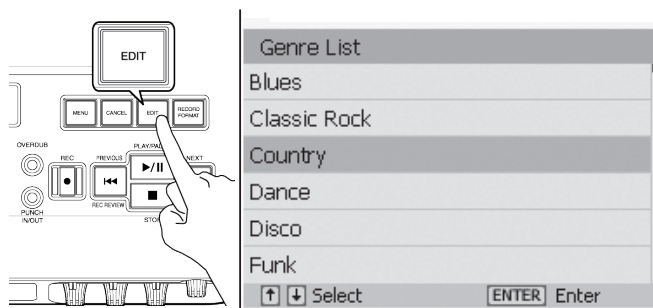
3. When you have finished editing text and pressed ENTER to confirm the new title, the Track Information Edit screen will appear. Turn the jog wheel to highlight Artist or Album.
4. Press the EDIT button. Enter the new Artist or Album information by using the [Text Input Method](#).

Genre

1. From the Track Information Edit screen, turn the jog wheel or move the joystick up or down to highlight Genre.

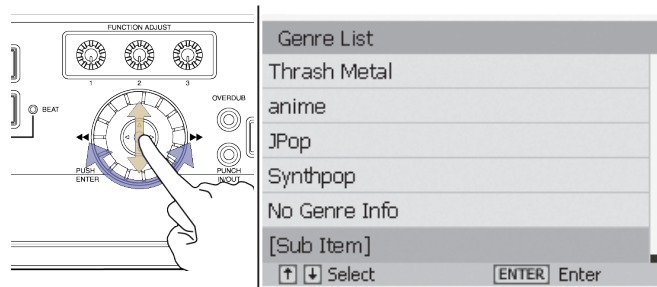


2. Press the EDIT button.

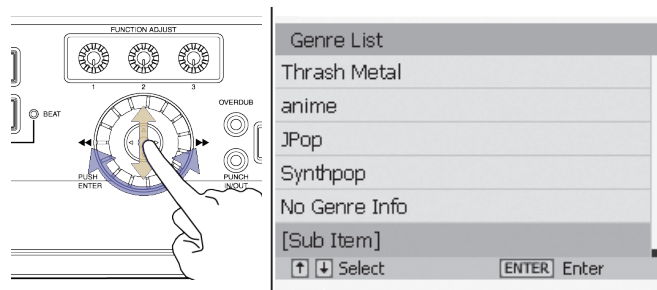


Turn the jog wheel or move the joystick up or down to highlight a genre from the list. Press ENTER to select a genre.

✘ If the genre is not listed, turn the jog wheel or move the joystick up or down to highlight [Sub Item].



Press ENTER. Enter the new genre by using the [Text Input Method](#). Repeat steps 1-3. The new genre will now appear as an option.



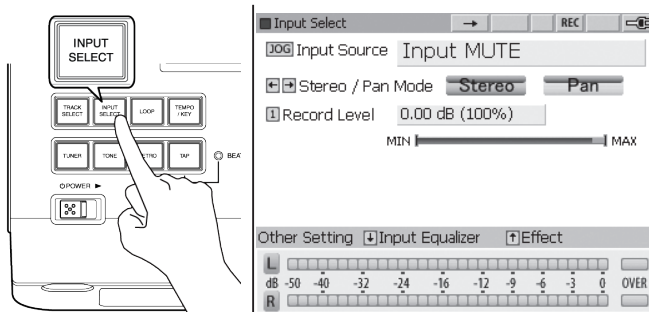
24>16bit Convert

This option only appears for 24-bit WAV files. Select this option to make 24-bit files playable on the PSD410. See [Auto Convert](#).

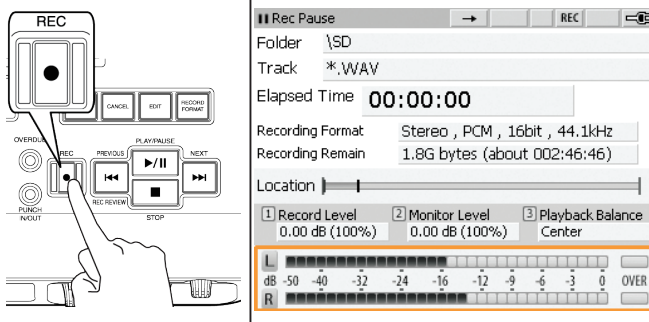
Recording with the PSD410

Basic Recording

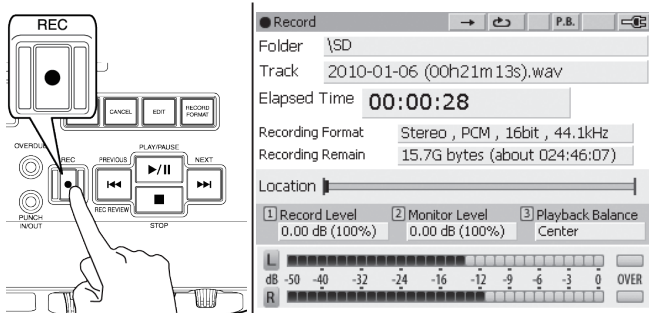
1. Insert a mini SD Card (see [Inserting a Mini SD Card.](#)).
2. Select an Input – Press the Input Select button to view input options. Turn the jog wheel to change Input Source. For more information on selecting inputs and setting levels see [Setting Up Microphones, Instruments and Other Sound Sources.](#)



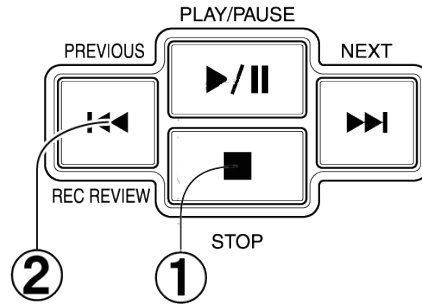
3. Press the Record button once to enter Record Pause mode. The Record button will flash and the VU meters at the bottom of the display will respond to your input signal(s).



4. Press the Record Button again to start recording. The Record button will stay lit during recording.



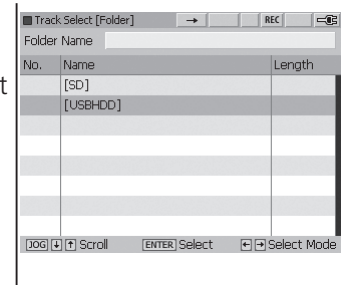
5. Finish recording.



- ① Press the Stop button when you are finished recording
- or
- ② Press the REC REVIEW button to stop the recording and playback the recording immediately.

Recording to External USB Storage

To record to an attached USB storage device, select [Return] on the Track Select [Folder] screen and press ENTER. Select [USBHDD] and press ENTER. The remaining steps are the same as Basic Recording.



Track Increment

During recording, you can increment tracks by:

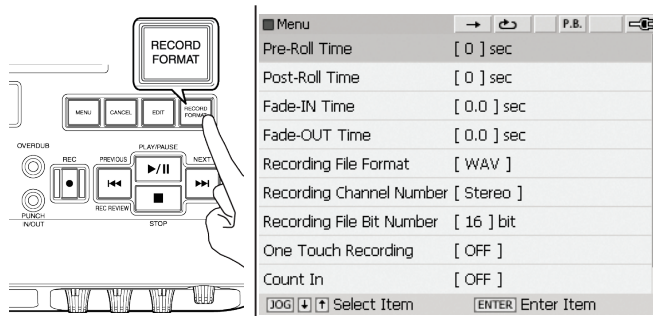
- (1) pressing the Record button (seamless track increment)
- or
- (2) pressing the Play/Pause button (recording is paused).

When a recording is paused, press the Play/Pause button again to continue recording on a new track.

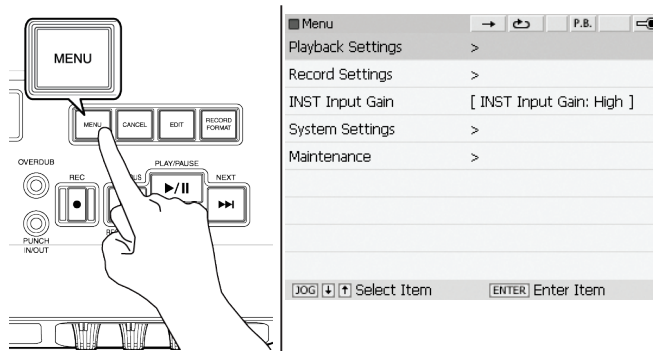
The Record Settings Menu

There are two ways to access the Record Settings menu:

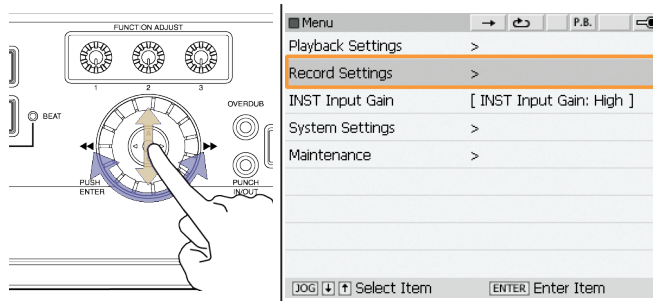
Option 1: Press the Record Format button:



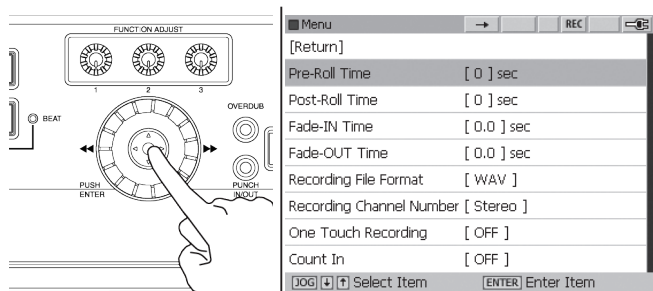
Option 2: Press the Menu button.



From the menu screen, turn the jog wheel or move the joystick down to select Record Settings.



Press ENTER to view the Record Settings Menu



To change Record Settings:

1. Move the joystick up or down or turn the jog wheel to highlight options on the Record Settings screen.
2. Press ENTER to select the setting you wish to edit.
3. Turn the jog wheel to change the value.
4. Press ENTER to confirm or CANCEL to cancel the change.

Fade In / Out

When a Fade-IN Time is selected, the Record Level will gradually increase from a mute condition to full Record Level, from the beginning of the recording to the time specified.

The range for Fade-IN Time is 0 (OFF) ~ 10 seconds, adjustable in increments of 0.5 seconds. The default setting is 0 (OFF) seconds

When a Fade-OUT Time is selected, the Record Level will gradually decrease from full Record Level to a mute condition. The fade begins the moment the recording is stopped.

The range for Fade-OUT Time is 0 (OFF) ~ 10 seconds, adjustable in increments of 0.5 seconds. The default setting is 0 (OFF) seconds

✘ To fade out manually, gradually turn **FUNCTION ADJUST #1 (4A) (Record Level)** counter-clockwise before stopping a recording.

Count In

When a Count In value is selected, the metronome will play the specified number of beats before recording begins. You can select up to 16 beats for a Count In. To record using Count In, follow the normal steps (see [Basic Recording](#)). When you press the Record button to begin recording, the metronome will begin automatically before recording begins. To adjust metronome settings, see [Using the Metronome](#).

Recording File Format

The PSD410 can record either WAV (uncompressed) or MP3 (compressed) files. Select Recording File Format to change the type of file the PSD410 will create. WAV is the default setting).

Recording Channel Number (mono, stereo setting)

The PSD410 can record either mono or stereo files. Select Recording Channel Number to change the number of channels in recorded files. Stereo is the default setting.

Bit Size (resolution of the recording).

If Recording File Format is set for WAV, this option will appear as Recording File Bit Number. If Recording File Format is set for MP3, this option will appear as Recording File Bit Rate. Increasing this setting increases the resolution of the recording, but also increases the size of the recorded file. The settings for bit number/bit rate will vary depending on the current settings for Recording File Format and Recording Channel Number. See the tables below

Bit size table

Recording format WAV.

Settings
24bit* or 16bit

Recording format MP3

Channels	Settings
Mono	32 , 40 , 64 , 80 , 128 , 160
Stereo	64 , 80 , 128 , 160 , 256 , 320

Default settings: WAV - Stereo - 16bit.

*Must be converted for playback. See [Auto Convert](#) below.

Pre-Roll Time/ Post-Roll Time

During Overdub and Punch In/Out, it is often helpful to add a time gap between the moment the Record button is pressed and the moment that recording begins (Pre-Roll Time). This added time allows the user to listen to or play along with the accompaniment track before recording. This allows for smooth transitions between original recorded material and new material added through an overdub or punch-in.

Adding a Post-Roll Time during Overdub or Punch In/Out will allow the accompaniment track to play for an additional amount of time after the user is finished recording new material. Pre-Roll Time and Post-Roll Time can be adjusted between 0 seconds and 10 seconds in 1 second intervals. The default setting for Pre-Roll Time and Post-Roll Time is [0] seconds.

Auto Track Increment

Increment tracks at pre-set time intervals. Options include: OFF, 1 minute, 5 minutes, 10 minutes, 15 minutes or 30 minutes. The default setting is OFF.

One Touch Recording

The PSD410 has the ability to bypass Record Pause Mode and simply begin recording after the user presses the Record button once. The default setting for One Touch Recording is [OFF].

Auto Convert

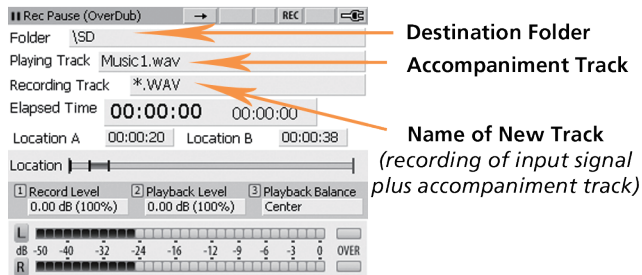
The PSD410 is designed to be a "music practice recording system." The recorder is therefore capable of performing a number of different audio manipulations concurrently, i.e., simultaneous Tempo, Key, and Fine Tune adjustment; Voice Reduction; Parametric EQ; etc.

To allow for this level of real time processing, it is necessary for playback to be CD quality (16bit/44.1kHz). When higher-than-CD quality (24bit) recordings are made with the PSD410, a CD quality (16bit) version of the file should be created for playback on the PSD410. The original 24bit recording will be unaffected and available for transfer to a PC for editing or playback.

To create a 16bit playback file automatically, select Auto Convert [ON]. The default value is Auto Convert [OFF].

Overdub

The Overdub feature allows the user to layer audio over a pre-existing recording (sound on sound). When the Overdub button is pressed, the PSD410 enters REC Pause Mode (Overdub).



In REC Pause Mode (Overdub), pressing the Record button (blinking red) or the Play/Pause button (blinking green) will mix the selected input signal (see [Setting Up Microphones, Instruments, and Other Sound Sources.](#)) with the currently selected track. If you have not adjusted the loop points for the selected accompaniment track, then you may layer audio until the accompaniment track finishes playing or until you stop the recording. When the recording is stopped early (before the accompaniment track finishes playing), the length of the newly recorded file will equal the elapsed time at the moment the recording was stopped.

By adjusting loop points before using the Overdub feature, you are able to utilize the PSD410's additional Overdub modes:

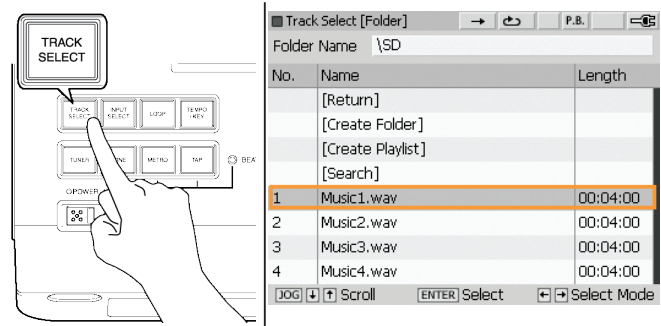
Overdubbing for Composition (Layering sections of a Track)

In this mode, you will identify a section of audio, then record additional audio over that section. The end result is a file identical to the original accompaniment file in length, but with an added layer of audio within the section you have outlined.

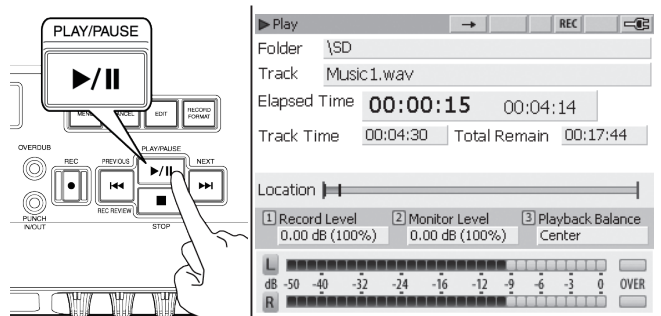
✘ When this mode is selected, playback level will automatically be reset to maintain consistent accompaniment level throughout the recording. See [Playback Balance and Level.](#)

✘ This mode does not work when MP3 files are used as accompaniment.

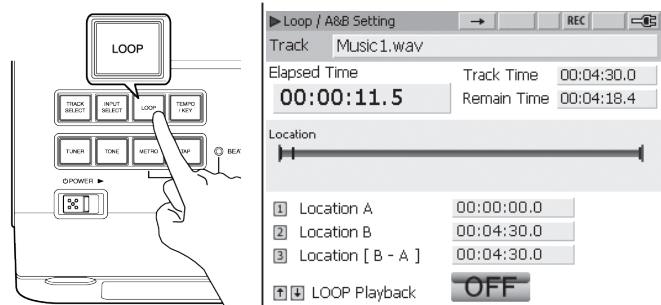
1. Press the TRACK SELECT button to select a track to record over.



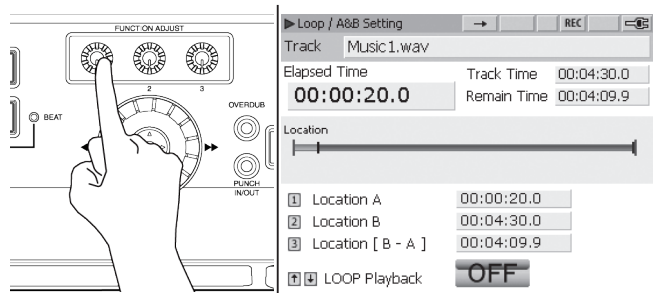
2. If you have already set your Overdub points, proceed to step 7. If not, press the PLAY/PAUSE button to listen to the track.



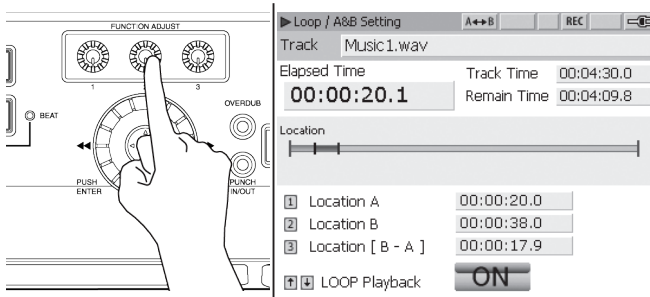
3. Press the LOOP button during playback to view the LOOP setting menu.



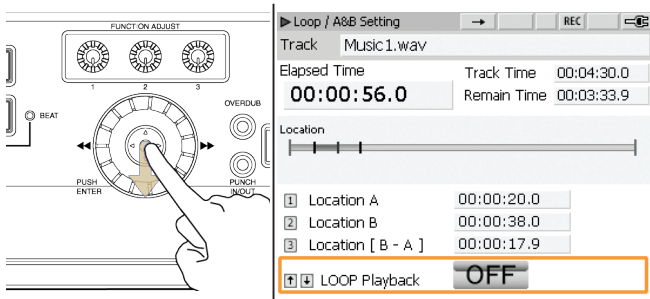
4. Press FUNCTION ADJUST #1 (4A) during playback to set Overdub point A. This is the point in the track you wish to begin layering audio.



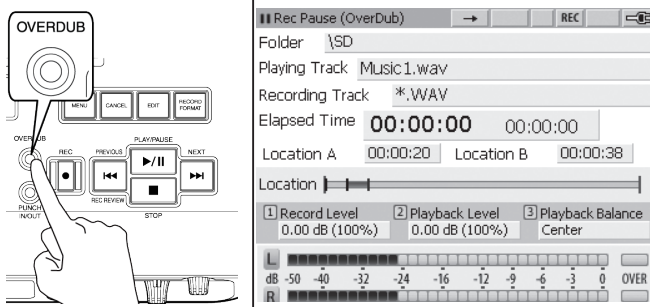
- Press FUNCTION ADJUST #2 (4B) during playback to set Overdub point B. This is the point at which you will finish layering audio. Loop Playback will start at point A automatically.



- Move the joystick down to turn Loop playback OFF.

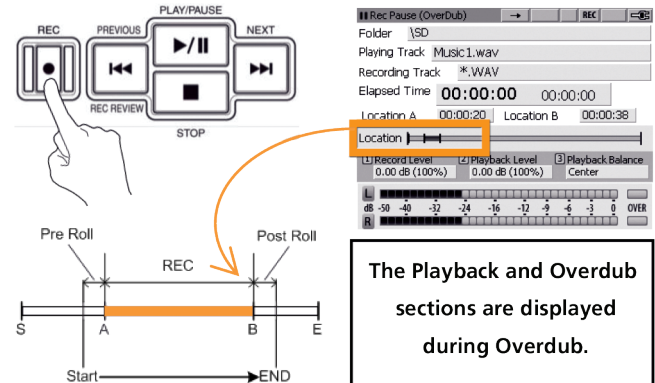


- Press the OVERDUB button to enter REC Pause Mode (Overdub).

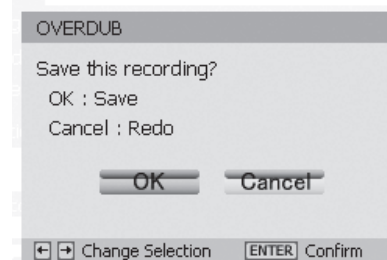


- Adjust the REC Level knobs so that the Record Level (left and right channels) does not exceed 0 dB as indicated on the Level meters. (see [Setting Levels](#)).

- Press the REC button (8A) or PLAY/PAUSE button (8C) to start overdubbing. If a Pre-Roll Time is set in the Record Settings menu (see [Pre-Roll Time / Post-Roll Time](#)), playback will begin a number of seconds before Overdub point A, as determined by the Pre-Roll Time.



- The accompaniment track will stop at the end of point B or the Post-Roll Time (see [Pre-Roll Time / Post-Roll Time](#)). The Save menu will appear.

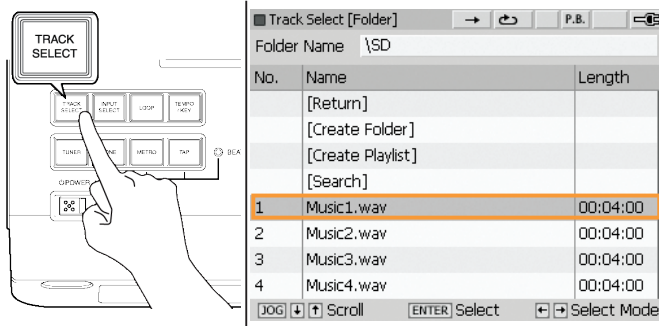


- Select OK and the new file (executed overdub) will be saved. Select Cancel and the file will not be saved. When Cancel is selected, the PSD410 will re-enter REC Pause Mode (Overdub) (step 7) allowing the user to redo the Overdub recording.

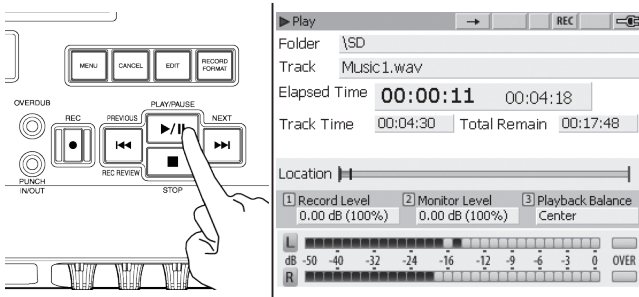
Overdubbing for Practice (Recording over a Loop)

In this mode, you will identify a section of audio, then record additional audio over that section until the STOP button is pressed. Unlike Mode A (Layering Sections of a Track), the length of the resulting file in this mode is determined by how long you choose to record over the repeating loop.

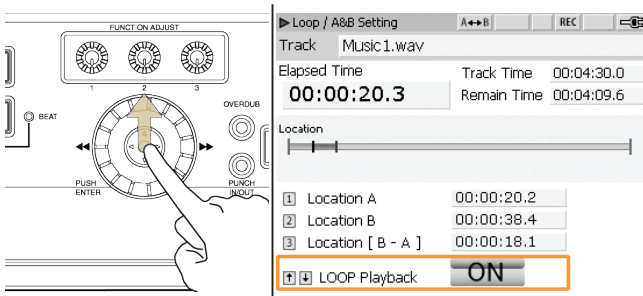
1. Select a track to record over by pressing the TRACK SELECT button.



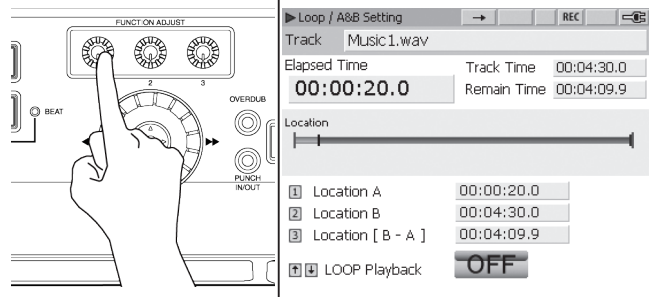
2. Press the PLAY/PAUSE button to listen to the track.



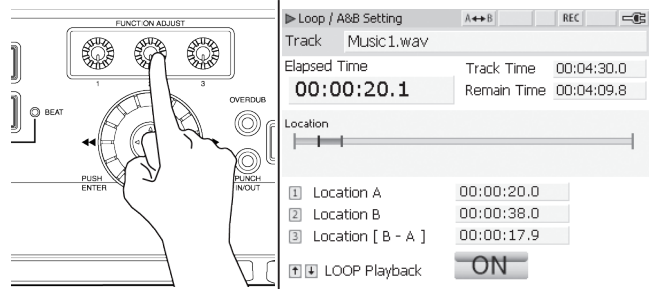
3. Press the LOOP button during playback to view the LOOP setting menu. If you have already set your Overdub points, simply move the joystick up to turn Loop playback ON, and proceed to step 6.



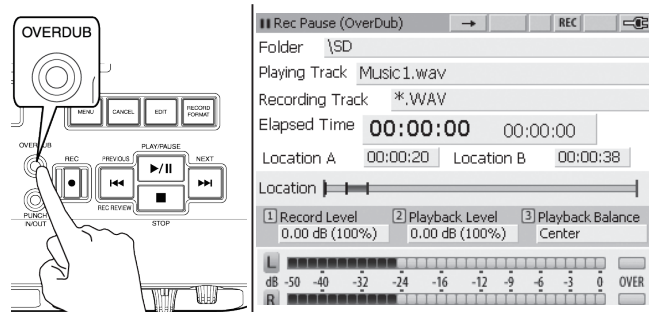
4. Press FUNCTION ADJUST #1 (4A) during playback to set the beginning of your accompaniment loop (point A).



5. Press FUNCTION ADJUST #2 (4B) during playback to set the end of your accompaniment loop (point B). Loop Playback will start at point A automatically.

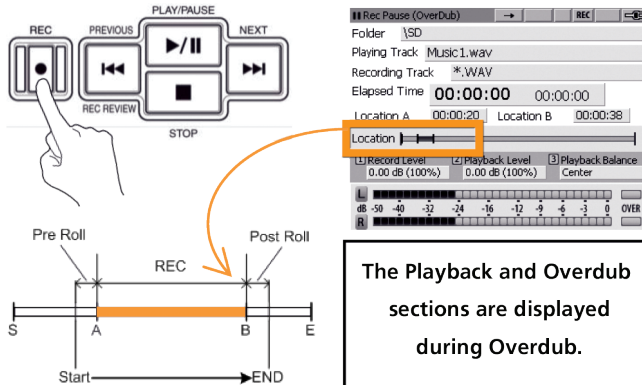


6. Press the OVERDUB button [6] to enter REC Pause Mode (Overdub).

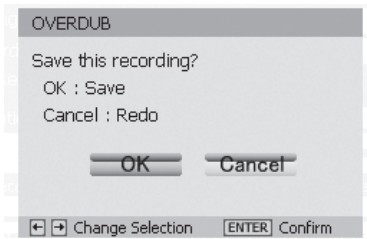


7. Adjust the REC Level knobs so that the Record Level (left and right channels) does not exceed 0 dB as indicated on the Level meters. (see [Setting Levels](#)).

- Press the REC button (8A) or PLAY/PAUSE button (8C) to start overdubbing. If a Pre-Roll Time is set in the Record Settings menu (see [Pre Roll Time / Post Roll Time](#)), playback will begin a number of seconds before Overdub point A, as determined by the Pre-Roll Time.



- Press the Stop button when you are finished recording. The Save menu will appear.



- Select OK and the new file (executed overdub) will be saved. Select Cancel and the file will not be saved. When Cancel is selected, the PSD410 will re-enter REC Pause Mode (Overdub) (step #6) allowing the user to redo the Overdub recording.

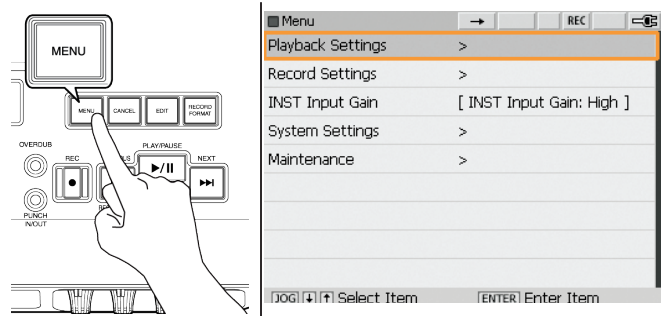
✘ To adjust Playback Level for the accompaniment file, turn FUNCTION ADJUST #2 (4B) when the main Overdub screen is visible.

Monitor Source

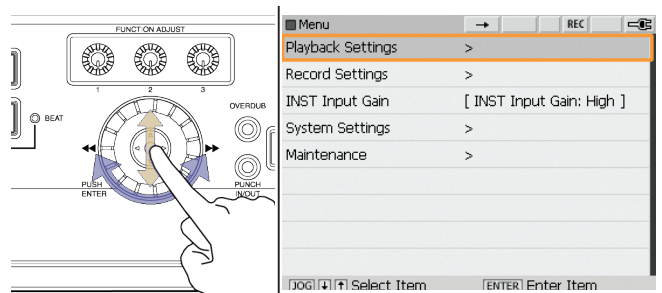
When Overdubbing, it is helpful to specify a Monitor Source. Selecting 'Recording Signal' as the Monitor Source will allow you to hear both the accompaniment file and the input signals (microphones, instruments, etc.) in the headphones and built-in speaker as you record.

When 'Playback Signal' is selected as the Monitor Source, the input signals will not be heard in the headphones or built-in speaker. This allows you to hear the accompaniment track without hearing your own voice or instrument during recording.

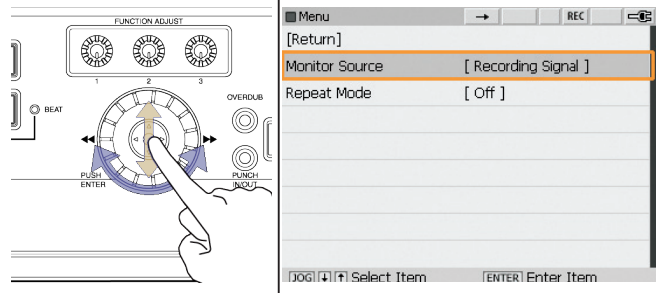
- Press the MENU button.



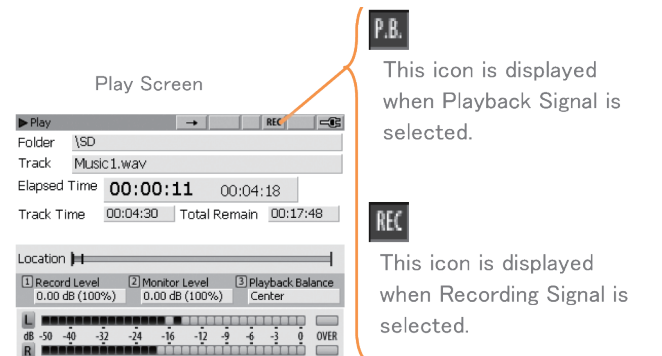
- Move the joystick up or down or turn the jog wheel to select Playback Settings. Press ENTER.



- Move the joystick up or down or turn the jog wheel to select Monitor Source. Press ENTER.

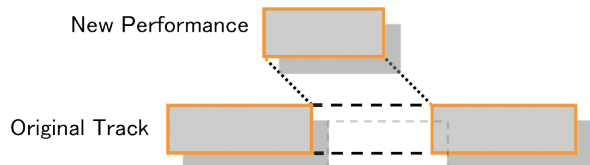


- Turn the jog wheel to select Recording Signal or Playback Signal. Press ENTER. Press the CANCEL button to cancel changes.

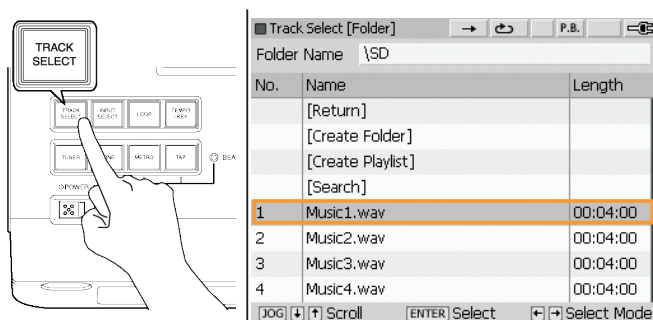


Punch In/Out

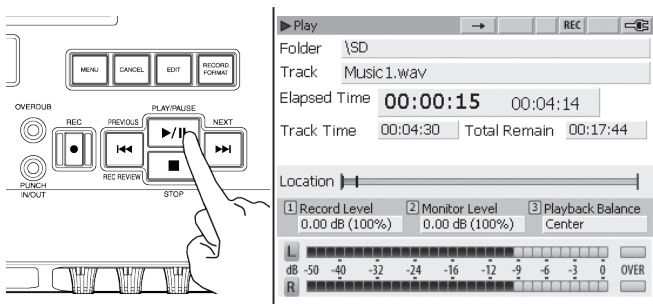
Use the Punch In/Out feature to replace a section of a performance with a new performance (correct mistakes).



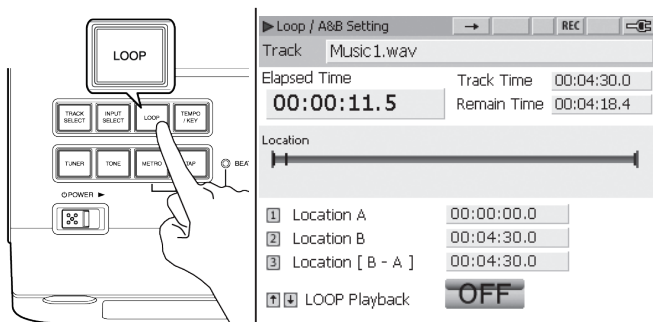
1. Press the TRACK SELECT button to select a track.



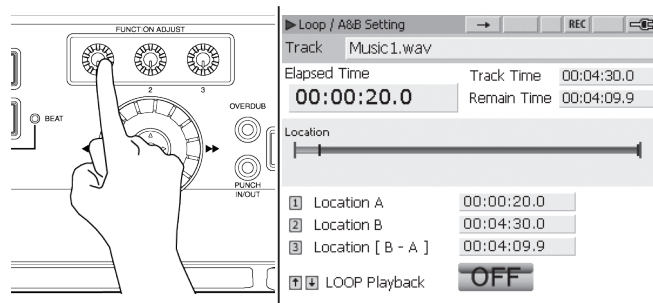
2. If you have already set your Punch In/Out points, proceed to step 6. If not, press the PLAY/PAUSE button to start playback.



3. Press the LOOP button during playback to view the LOOP setting menu.

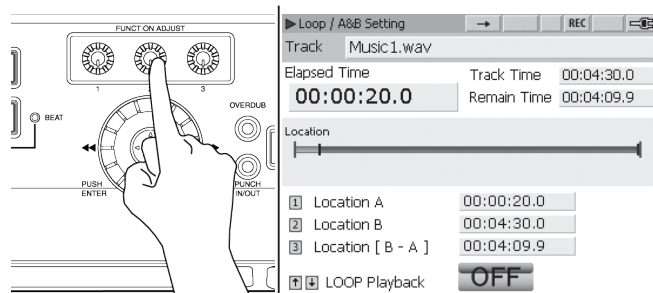


4. Press FUNCTION ADJUST #1 (4A) during playback to set the punch-in point.

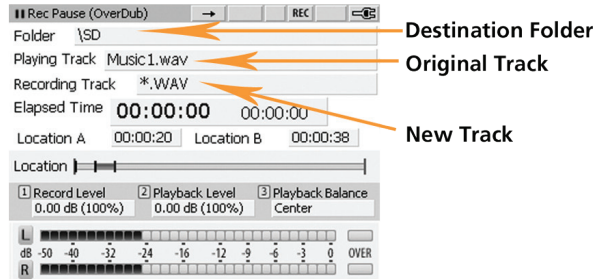
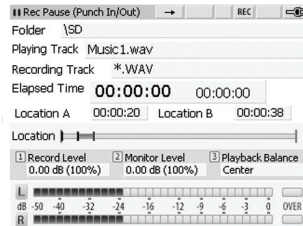
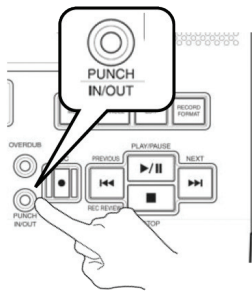


5. Press FUNCTION ADJUST #2 (4B) during playback to set the punch-out point. Loop Playback will be started at point A automatically.

✖ To facilitate smooth transitions between the original track and your newly recorded punch-in, it is recommended you set your punch-in/out points several seconds before and after the section that needs to be replaced. Rather than attempting to replace individual missed notes, try outlining larger phrases when using Punch In/Out.



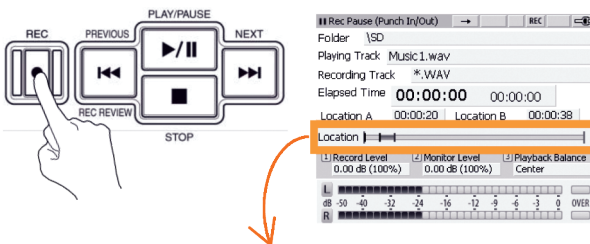
- Press PUNCH IN/OUT button to change to REC Pause Mode (Punch In/Out).



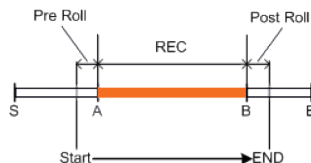
- When Recording between point A (punch-in) and point B (punch-out) has finished, the recording will stop automatically and the Save menu will appear.

- Select OK and the new file (executed punch-in) will be saved. Select Cancel and the file will not be saved. When Cancel is selected, the PSD410 will reenter REC Pause Mode (Punch In/Out) (step #6) allowing the user to redo the punch-in recording.

- Adjust the REC Level knobs so that the Record Level (left and right channels) does not exceed 0 dB as indicated on the Level meters. (see [Setting Levels](#)).
- Press the REC button or PLAY/PAUSE button to start recording. If a Pre-Roll Time is set in the Record Settings menu (see [Pre-Roll Time / Post-Roll Time](#)), playback will begin a number of seconds before punch-in point A, as determined by the Pre-Roll Time.



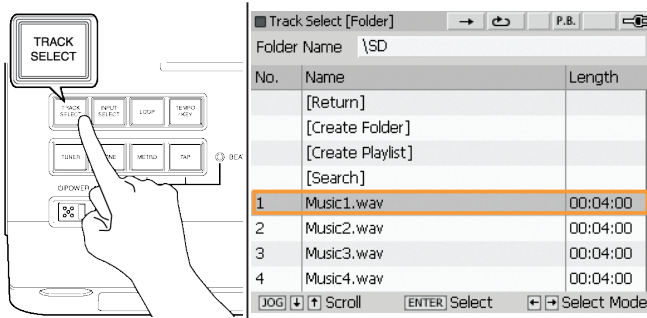
The playback and Punch IN/OUT locations are displayed



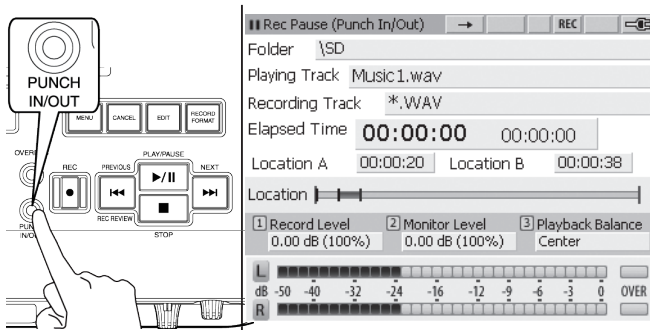
Punch In/Out with Foot Pedal

Follow these steps to punch in/out “on the fly” with the help of an external foot pedal.

1. Select “Foot pedal: Punch In<->Punch Out” in the [System Settings](#) menu.
2. Press the TRACK SELECT button to select a file for Punch In/Out recording.

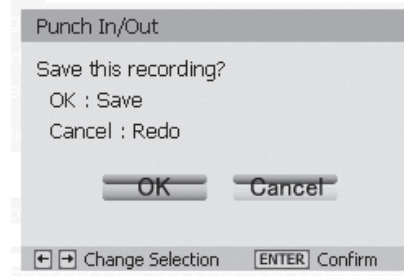


3. Press the Punch IN/OUT button to change display to REC Pause (Punch In/Out).



4. Adjust the REC Level knobs so that the Record Level (left and right channels) does not exceed 0 dB as indicated on the Level meters. (see [Setting Levels](#)).
5. Press the Foot Pedal to start playback.
6. Press the Foot Pedal again to set the punch-in point during playback. The PSD410 will begin punch-in recording.
7. Press the Foot Pedal again to set the punch-out point during playback. After setting the punch-out point, the recording will be stopped.

8. When Recording between point A (punch-in) and point B (punch-out) has finished, the recording will stop automatically and the Save menu will appear.



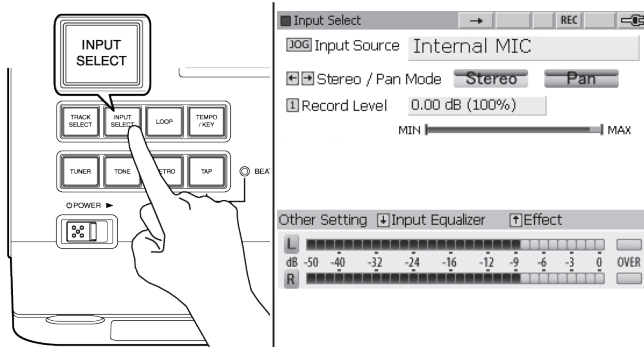
9. Select OK and the new file (executed punch-in) will be saved. Select Cancel and the file will not be saved. When Cancel is selected, the PSD410 will re-enter Rec Pause Mode (step 3), allowing the user to redo the punch-in recording.

Recording Effects

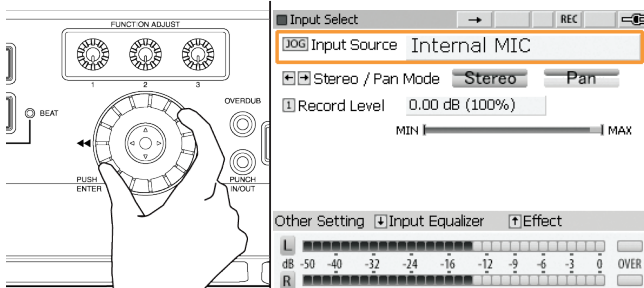
Reverb and Delay effects can be added to input signals and then recorded. It is not possible to add an effect to an existing recording. Follow these steps to apply an effect to your selected input.

Selecting an Input Signal

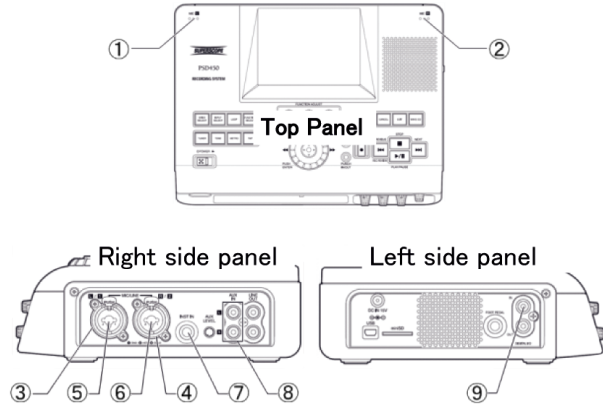
1. Press the INPUT SELECT button to open the Input Select screen.



2. Turn the jog wheel to select an input configuration from the options below.

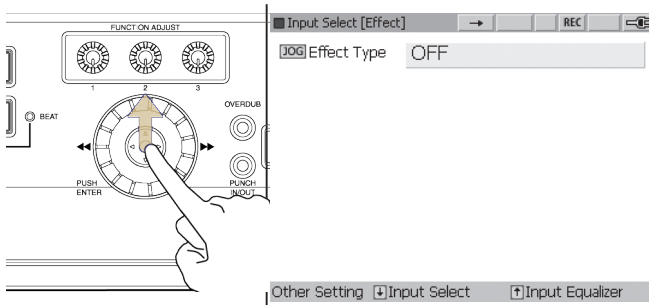


Available Input Sources

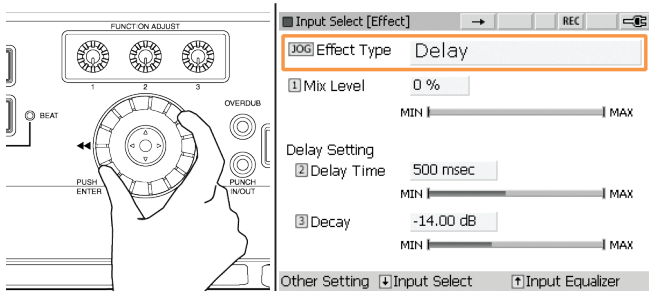


Input	Description
Input Mute	Input signal is muted.
Internal MIC	Selects the built-in microphones ① ②.
External MIC	Select this setting when external microphones are connected to the XLR/1/4" inputs ③ ④.
LINE	Select this setting when LINE level signals are connected to the XLR/1/4" inputs. ⑤ ⑥.
INST	Selects the INST input ⑦.
Internal MIC (L ch) + INST	Select the Left internal microphone ① + the INST input ⑦.
External MIC (L ch) + INST	Selects the Left external microphone input ③ + the INST input ⑦.
LINE (L ch) + INST	Selects the Left LINE input ⑤ + the INST input ⑦.
AUX	Selects the AUX inputs ⑧.
DIGITAL	Selects the DIGITAL Inputs ⑨.

- Once an input is selected, push the joystick up to view the Input Select [Effect] screen.



- Turn the jog wheel to select the effect type from the table below. The default setting is OFF.



Effect Type Settings

Effect	Description
OFF	No effect
Room	Adds ambience similar to that of a small to medium sized room
Hall	Adds ambience similar to that of a large hall
Plate	Imitates the sound of a plate reverb unit
Delay	Adds discrete echoes to the sound source

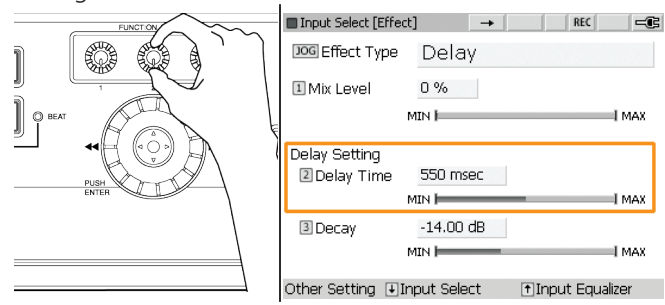
- If Room, Hall, or Plate is selected as the Effect Type, the only parameter to adjust is the Mix Level. The Mix Level setting controls the balance between direct signal (0%) and processed signal (100%).
- If Delay is selected as the Effect Type, the following additional parameters should be adjusted:

① Delay Time

Delay Time sets the amount of time delay between repeats.

Delay Time can be adjusted between 0 msec and 1000 msec in 1 msec intervals. The default setting is 500 msec.

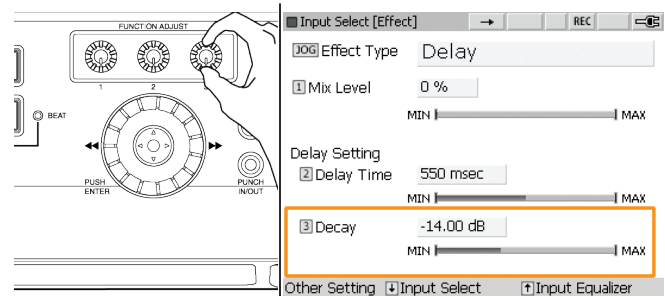
Turn FUNCTION ADJUST # 2 (4B) to adjust Delay Time. Press FUNCTION ADJUST # 2 (4B) to return to the default setting.



② Decay

Decay sets the amount of attenuation for each successive repeat. The greater the attenuation, the quicker the echoes will fade away. Decay can be adjusted between -20.00 and -3.00 dB in 0.25 dB steps.

The default is setting is -14.00dB. Turn FUNCTION ADJUST # 3 to adjust Decay. Press FUNCTION ADJUST # 3 to return to the default setting.

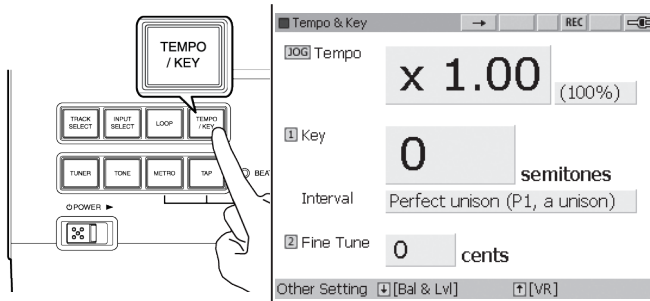


Playback Balance and Level

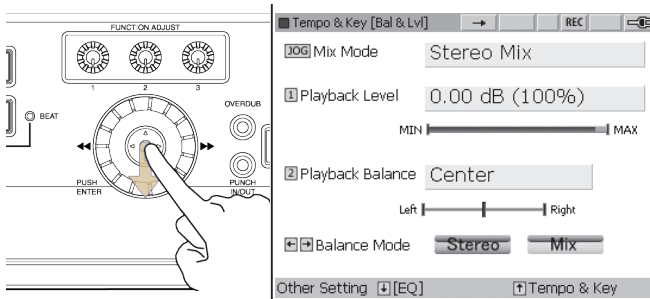
The PSD410 offers a great deal of flexibility when determining Playback Balance. Follow these steps to alter the Balance and Level of any file played by the PSD410.

- ✖ When you exit this screen, all settings will be stored on the SD card along with the selected file.

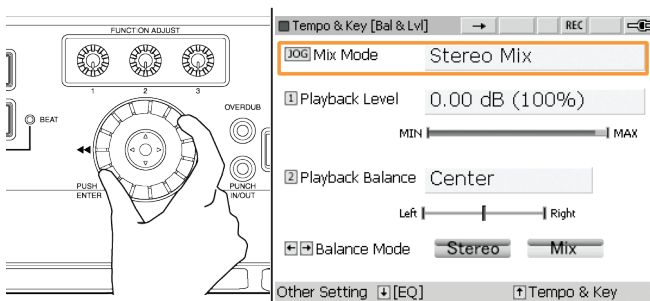
1. Press the TEMPO/KEY button to open the Tempo/Key screen.



2. Press the joystick down one time to open the Tempo & Key [Bal & Lvl] screen.



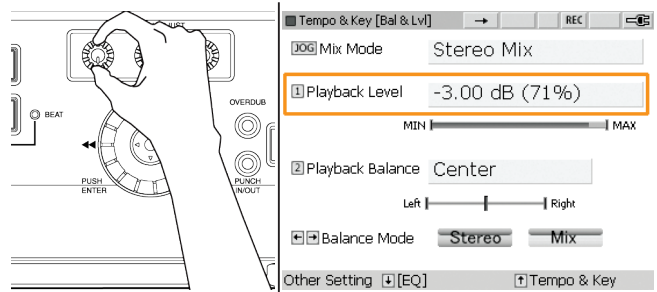
3. Turn the jog wheel to select Mix Mode. The Mix Mode settings are explained in the chart below.



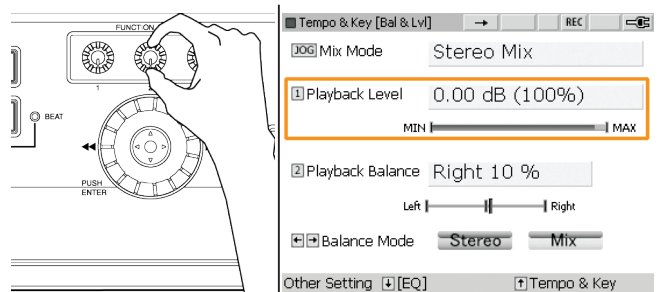
Mix Mode	Output Mix
Stereo Mix (normal operation)	Left channel [input signal (left) + playback signal (left)] Right channel [input signal (right) + playback signal (right)]
L ch – Mix	Left channel [input signal (left) + playback signal (left)]
R ch – Mix	Right channel [input signals (right) + playback signal (right)]
Mono - Mix	Left channel [input signal (left) + playback signal (left + right)]

Split	Right channel [input signals (right) + playback signal (left + right)]
	Left channel [playback signal (left + right)] Right channel [input signal (left + right)]

4. Playback Level. Turn FUNCTION ADJUST # 1(4A) to adjust Playback Level. Playback Level can be adjusted between -20 dB (0%) and -0.0 dB (100%) in 0.5 dB (1%) increments. The default setting is 0 dB (100%).



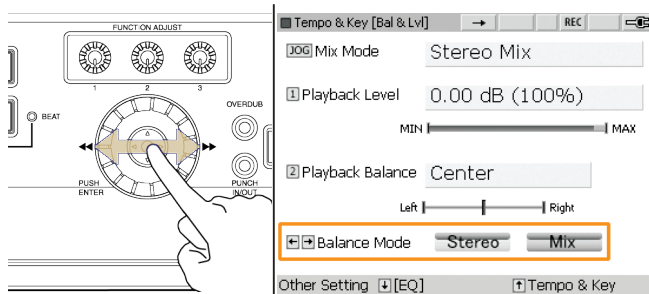
5. Playback Balance. Playback Balance can be adjusted in 1% increments between "Left 100% ~ Center ~ Right100%" by turning FUNCTION ADJUST #2 (4B). The default setting is Center. For a description of Playback Balance behavior, see Balance Mode below.



6. Balance Mode. In normal operation (Stereo), a Playback Balance setting of 'Left 100%' will completely mute the Right channel. Likewise, a Playback Balance setting of 'Right 100%' will mute the Left channel.

When transcribing an instrument that is solidly in one channel (Right or Left), it can be useful to move the desired channel into both channels, rather than muting the opposing channel, i.e., silencing one speaker or one side of a pair of headphones.

This Balance Mode is referred to as "Mix." In Balance Mode: Mix, a Playback Balance setting of 'Left 100%' will place the Left channel content in both the Left and Right output channels (both sides of your headphones/ L&R speakers) Move the joystick left or right to select "Stereo" or "Mix." The default setting is "Stereo."

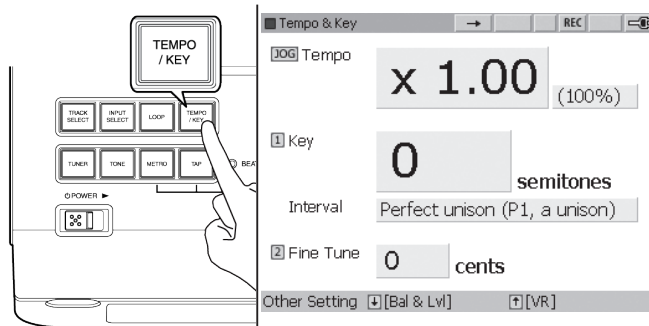


Equalizer Settings

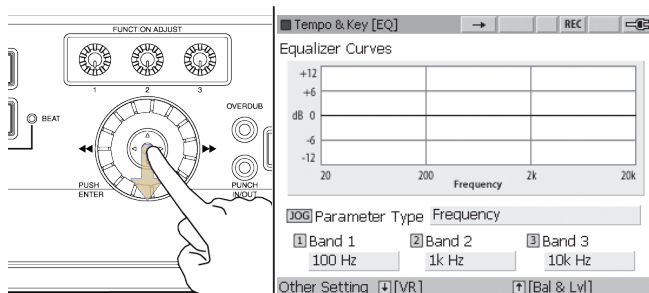
The PSD410 offers two independent 3-band parametric equalizers (EQ); one equalizer affects input signals (microphones, instruments, etc.) while the other equalizer affects file playback. Follow these steps to adjust the playback equalizer (Note: When you exit this screen, all settings will be stored on the SD card along with the selected file):

Playback Equalizer

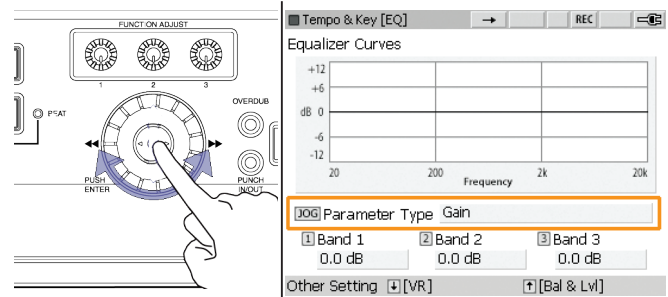
1. Press the TEMPO/KEY button to open the Tempo/Key screen.



2. Press the joystick down two times to open the Tempo & Key [EQ] screen.

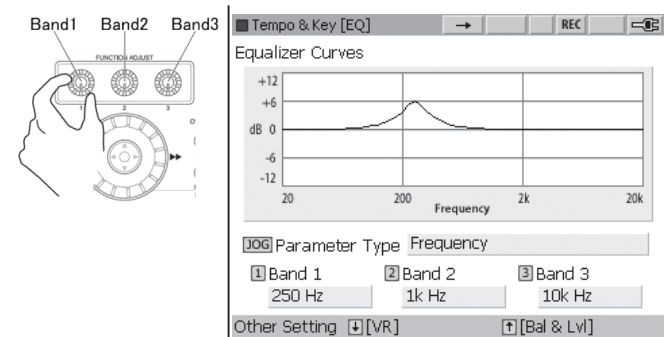


3. **Parameter Type:** Turn the jog wheel to select the parameter to be adjusted: Frequency, Gain, or Bandwidth.



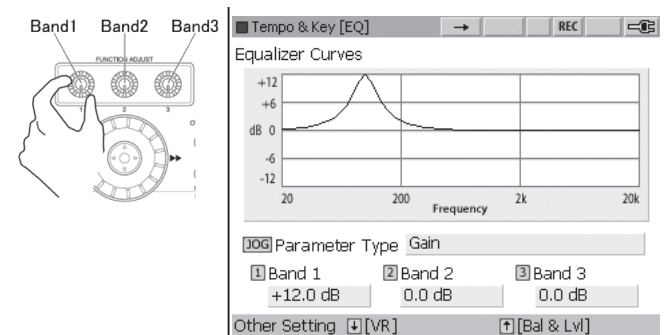
Frequency

When Parameter Type is set for Frequency, turn the FUNCTION ADJUST controller to select any frequency between 20Hz and 20kHz for each band. Pressing the FUNCTION ADJUST knobs will return all settings to default values.



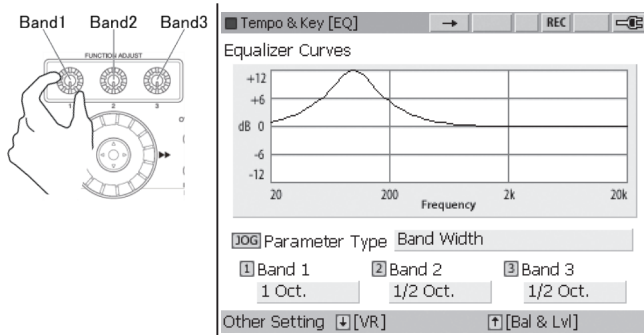
Gain

When Parameter Type is set for Gain, turn the FUNCTION ADJUST controller to determine the gain for each Band. Gain can be adjusted +/- 12dB. Pressing the FUNCTION ADJUST knobs will return all settings to default values.



Bandwidth

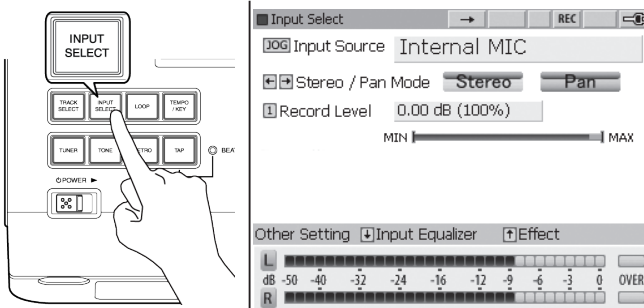
When Parameter Type is set for Bandwidth, turn the FUNCTION ADJUST controller to set the Bandwidth for each Band. Turn right to widen the frequency band. Turn left to narrow the frequency band. Pressing the FUNCTION ADJUST knobs will return all settings to default values.



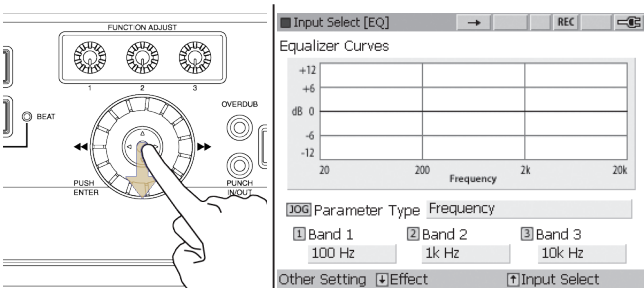
Input Equalizer

Follow these steps to adjust the input equalizer:

1. Press the INPUT SELECT button to open the Input Select screen.
- 2.



3. Press the joystick down one time to open the Input Select [EQ] screen.

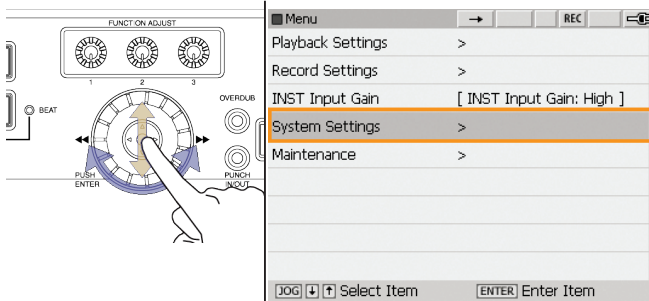


4. Repeat the remaining steps under Equalizer Settings: Playback Equalizer.

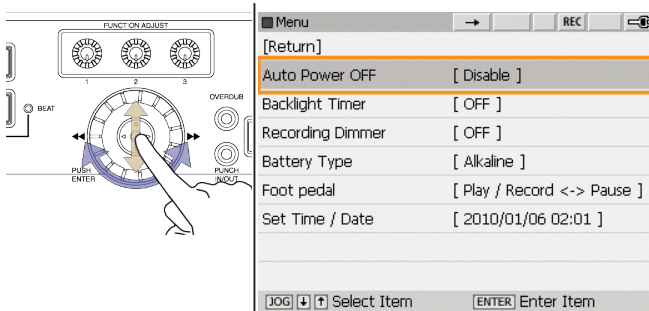
System Settings

Follow these steps to adjust System Settings:

1. Press the MENU button to display the menu screen.
2. Turn the jog wheel or move the joystick up or down to highlight System Settings. Press ENTER.



3. From the System Settings menu, turn the jog wheel or move the joystick up or down to highlight a menu setting. Press ENTER.



4. Turn the jog wheel to change settings. Press ENTER.

Auto Power Off

Turn this feature on to conserve power when the PSD410 is not in use. When Auto Power Off is enabled, the PSD410 will power off automatically after 15 minutes of inactivity. This includes the use of all top panel buttons and knobs, and the remote control. This feature is disabled during recording and playback. The default setting is [Disable].

Backlight Timer

This feature saves power by automatically dimming the LCD backlight after a period of inactivity. This includes the use of all top panel buttons and knobs, and the remote control. Settings include OFF, 2 seconds, 5 seconds, 10 seconds, and 20 seconds. The default setting is OFF.

Recording Dimmer

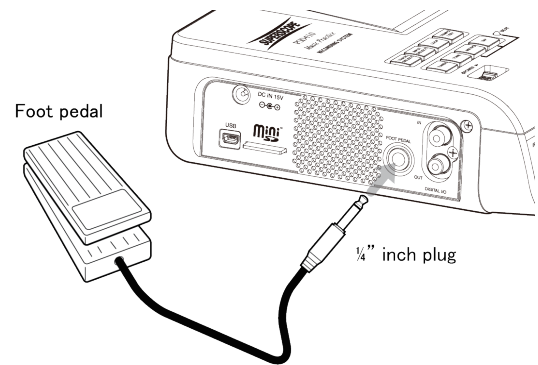
When this feature is OFF (default setting), the LCD backlight will not dim during recording regardless of the Backlight Timer setting. This will save power by allowing the backlight to dim during recording.

Battery Type

Setting Battery Type allows for greater accuracy with the battery life gauge. Available options include alkaline batteries (default setting) and nickel metal hydride (NiMH).

Foot Pedal

An optional foot pedal can be connected to the Foot Pedal input on the Left panel.



The following table describes the functions of the foot pedal:

Foot Pedal Setting	Performance
Play/REC <-> Pause	During playback, press the foot pedal to toggle between Play and Pause mode. During Recording, press the foot pedal to toggle between Record and Record Pause mode.
Play<->Recall	During playback, press the foot pedal once to mark a recall point. When the foot pedal is pressed a second time, playback will return to the recall point.
Punch In <-> Punch Out	During Punch In/Out mode, the foot pedal can be used to set punch-in and punch-out points "on the fly."

The default setting is "Play/REC <->Pause."

Set Time / Date

See [Setting Time/ Date](#)

Appendix

Main Menu (1 of 2)

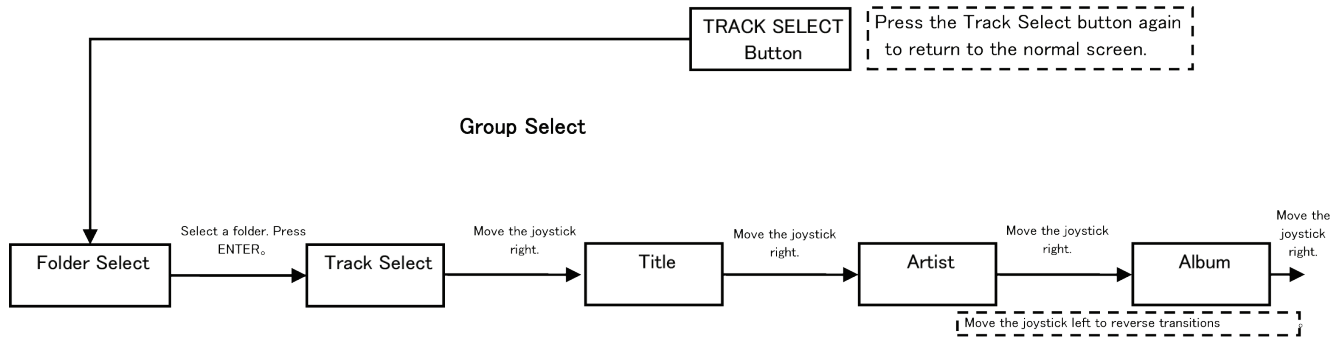
Sub Menu	Menu Item	Settings	Default Setting
Playback Setting	Monitor Source	Record Signal	Record Signal
		Playback Signal	
	Repeat Mode	OFF	Off
		All	
		1	
		Single, 1	
		Single, All	
		Single	
Record Settings	Pre-Roll Time	OFF, 1 ~ 10sec (Increment: 1sec)	0 sec
	Post-Roll Time	OFF, 1 ~ 10sec (Increment: 1sec)	0 sec
	Fade-IN Time	0 ~ 10 sec (Increment: 1 sec)	0 sec
	Fade-OUT Time	0 ~ 10 sec (Increment: 1 sec)	0 sec
	Recording File Format	WAV	WAV
		MP3	
	Recording Channel Number	Stereo	Stereo
		Mono	
	Recording File Bit Number	16bit	16bit
		24bit	
	Recording File Bit Rate	32 kbps	192 kbps
		40 kbps	
		48 kbps	
		56 kbps	
		64 kbps	
		80 kbps	
		96 kbps	
		112 kbps	
		128 kbps	
		160 kbps	
		192 kbps	
		224 kbps	
		256 kbps	
		320 kbps	
	Auto Track Increment *	OFF	OFF
		1 min.	
		5 min.	
		10 min.	
		15 min.	
		30 min.	
	One Touch Recording	All	OFF
		1	
	Count In	Single, 1	OFF
	Auto Convert	Single, All	OFF
		Single	

* +/- 2 seconds

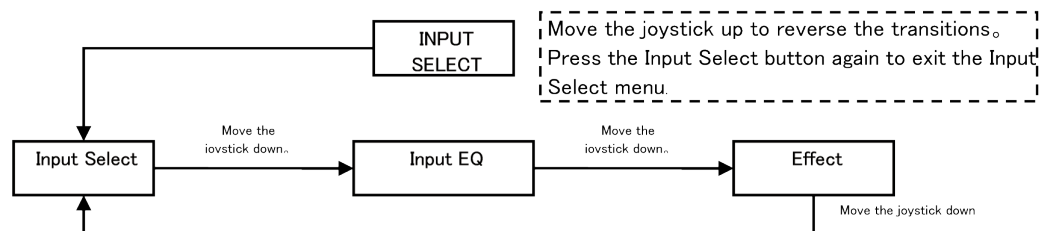
Main Menu (2 of 2)

Sub Menu	Menu Item	Settings	Default Setting	Note
INST Input Gain Setting	INST Input Gain	High	High	Sets the sensitivity for the INST input.
		Low		
System Settings	Auto Power OFF	Disable	Disable	Powers the unit off after 15 minutes of no activity.
		Enable		
	Backlight Timer	OFF, 2sec, 5sec, 10sec, 20sec	OFF	Dims the LCD backlight after the selected period of inactivity.
	Recording Dimmer	OFF	OFF	Turn ON to maintain LCD backlight during recording regardless of Backlight Timer setting.
		ON		
	Battery Type	Alkaline	Alkaline	For accurate battery gauge read out, select Battery Type.
		Ni-MH		
	Foot Pedal	Play/Record <-> Pause	Play/Record <-> Pause	Select Foot Pedal function
		Play <-> Recall		
		Punch In <-> Punch Out		
	Set Time/Date	Year/Month/Day	-	Time/Date determines file name for new recordings. See Setting Time/Date .
		Hour:Minute:Second		
Maintenance	System Information	-	-	Displays Model, Software Version, and SD capacity.
	Format SD	-	-	Select to initialize the SD Card for use on the PSD410. ✘ All the data currently on the SD card will be deleted.
	Restore Defaults	-	-	Returns all menu settings to factory default values.

Track Select Mode Transition Diagram



Input Select Mode Transition Diagram

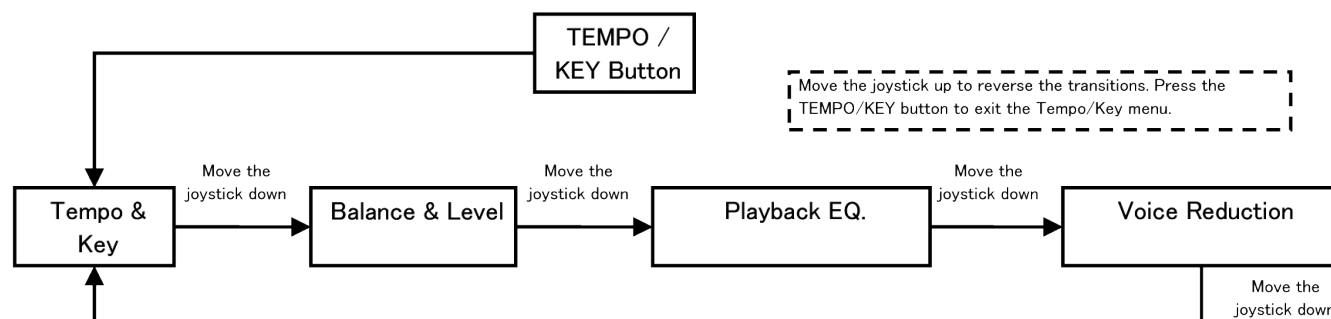


Sub Menu	Menu Item	Settings		Default Setting	
Input Select	Input Source	Input Mute		Input Mute	
		Internal MIC			
		External MIC			
		LINE			
		INST			
		Internal MIC (L ch) + INST			
		External MIC (L ch) + INST			
		LINE (L ch) + INST			
		AUX			
		DIGITAL			
Input EQ	Parameter Type	Frequency	20Hz～20kHz	1kHz	
		Gain	[-12 ～ +12] dB (increment : 0.5 dB)		0 dB
		Band Width	[1/12, 1/6, 1/3, 1/2, 1, 2] Octave		1/2 Octave
	Band	Band 1	Parameter Type	-	
		Band 2	Parameter Type		
		Band 3	Parameter Type		
Input Effect	Effect Type	OFF		OFF	
		Room			
		Hall			
		Plate			
		Delay			
	Mix Level	[0 ～ 100] %		0%	
	Delay Setting	Delay Time	[100 ～ 1000] msec (increment: 1msec)	Repeat OFF	
		Decay	[Repeat OFF, -20.00 ～ -3.00] dB		

Edit Menu Options

Selected Item				
16bit WAV file	24bit WAV file	MP3 file	Playlist	Folder
Track Information	Track Information	Track Information	Copy	Copy
Copy	Copy	Copy	Move	Move
Move	Move	Move	Rename	Rename
Rename	Rename	Rename	Delete	Delete
Delete	Delete	Delete	Edit Playlist	
Trim In/Out	24 > 16bit Convert	Export		
Divide				
Combine				
Export				

Key/Tempo Menu



Sub Menu	Menu Item	Settings		Default Setting
Tempo & Key	Tempo	x[-0.75 ~ 1.50] (-75 ~ 150%) increment : 0.01(1%)		X 1.00 (100%)
	Key	[-12 ~ +12] semitones increment : 1 semitone		0 semitones
	Fine Tune	[-50 ~ +50] cent step : 1 cent		0 cents
	Calibration	A4 : [430 ~ 460] Hz step : 1 Hz		440 Hz
Balance & Level	Mix Mode	Stereo		Stereo
		Split		
		L ch Mix		
		R ch Mix		
		Monaural Mix		
	Playback Level	[0 ~ 100] % increment: 1%		-0 dB (100%)
	Playback Balance	Left [100 ~ center ~ -100 %] increment: 1%		Center
	Balance Mode	Stereo		Stereo
Mix				
Playback EQ.	Parameter Type	Frequency	20Hz~20kHz	1kHz
		Gain	[-12 ~ +12] dB (increment : 0.5 dB)	0 dB
		Band Width	[1/12, 1/6, 1/3, 1/2, 1, 2] Octave	1/2 Octave
	Band	Band 1	Parameter Type	-
		Band 2	Parameter Type	
		Band 3	Parameter Type	
	Voice Reduction	Voice Reduction	ON / OFF	

Chromatic Tuner Menu

Sub Menu	Menu Item	Settings	Default Setting
Chromatic Tuner	Input Source	Input Mute	Input Mute
		Internal MIC	
		External MIC	
		LINE	
		INST	
		Internal MIC (L ch) + INST	
		External MIC (L ch) + INST	
		LINE (L ch) + INST	
		AUX	
		DIGITAL	
	Channel Select	Left + Right	Left + Right
		Left	
		Right	
	Calibration	[410 ~ 470] Hz increment : 1Hz	440 Hz

Tone Menu

Sub Menu	Menu Item	Settings	Default Setting
Tuning Tone	Tone Name	C, C#, D, D#, E, F, F#, G, G#, A, A#, B	A
	Calibration	[410 ~ 470] Hz increment: 1 Hz	440 Hz
	Volume	[-20 ~ 0] dB increment: 0.5 dB	-10 dB

Metronome Menu

Sub Menu	Menu Item	Settings	Default Setting
Metronome	ON / OFF	ON	OFF
		OFF	
	BPM	[35 ~ 250] BPM increment: 1 BPM	120 BPM
	Accent Beat Number	[0 (OFF) ~ 9] increment: 1	4
	Normal Beat Volume	[mute, -20 ~ 0] dB increment: 0.5 dB (1%)	0 dB (0%)
	Accent Beat Volume	[mute, -20 ~ 10] dB increment: 0.5 dB (1%)	3 dB (0%)

Continuous Recording Time with Battery Operation

The following times are estimates. Recording times may vary.

Battery Type	LCD	Phantom Power	Battery Life (Hours)
Fully Charged 2,700mAh Ni-MH	Full bright	OFF	5.5
		ON	4.9
	Dimmer	OFF	6.3
		ON	5.8
AA Size Alkaline	Full bright	OFF	3.6
		ON	3.3
	Dimmer	OFF	4.7
		ON	4.2

Conditions:

77 degrees Fahrenheit.

Volume controller:

Minimum position.

Mode:

Recording MP3-Stereo-128kbps-Internal MIC.

Ni-MH

Alkaline

SD Card Record Times

The table below shows estimated record times.

Estimated Record Times SD memory card (1GB)

Estimated Record Times		SD Memory Card (1GB) Continuous Recording
WAV 44.1KHz	16 bit	1 hr 34 min
	24 bit	1 hr 02 min
MP3 Stereo	64Kbps	34 hr 43 min
	80Kbps	27 hr 46 min
	128Kbps	17 hr 21 min
	160Kbps	13 hr 53 min
	256Kbps	8 hr 40 min
	320Kbps	6 hr 56 min
MP3 Mono	32Kbps	69 hr 26 min
	40Kbps	55 hr 33 min
	64Kbps	34 hr 43 min
	80Kbps	27 hr 46 min
	128Kbps	17 hr 21 min
	160Kbps	13 hr 53 min

■ Specifications

General

SystemSD Digital Recording System
Number of Recording Channels.....2 (stereo)
Recording / Playback Formats.....WAV and MP3
 16bit/24bit Recording Format: linear PCM WAV 44.1KHz
 (extension. WAV)
 MP3 Stereo 64, 80, 128, 160, 256, 320
 Kbps Mono 32, 40, 64, 80, 128, 160 Kbps

A / D Conversion.....24bit 128 times oversampling
D / A conversion.....24bit 128 times oversampling
Sampling Rate.....44.1 KHz
Maximum Recording File Size2 GB
Recording Media.....Maximum 32GB Mini-SDHC
Display.....High-resolution 3.5-inch TFT LCD color display
Power Requirements.....15 VDC 3.2A Center Pin Positive
 AC 100 - 240V 50/60Hz power supply
 Battery 8 X 1.5V "AA" Alkaline or NiMH

Dimensions.....10.5(W) 3.3(H) 7.8(D) in
 269 (W) 81 (H) 202 (D) mm
Weight.....3.9lb / 1.8 Kg without batteries
Operating Temperature.....5° to 35°
Internal Speaker.....3.5cm X 1
Internal Microphones.....Electret Condenser X 2
Phantom Power Supply.....48V 10 mA max
USB...USB 2.0 High speed / Mass Storage Class operation

Audio

Analog to Digital Converter.....24 Bit resolution
 128 times Oversampling
Digital to Analog Converter.....24 Bit resolution
 128 times Oversampling
Overall Frequency Response.....20 Hz to 20 KHz +/- 1 dB
Line Output Level.....2.2Vrms, 300Ω
Headphone Output Level.....50mW, 32Ω, 10% THD
Speaker Output Level.....2W, 8Ω, 10% THD
Digital Output Level.....0.5 Vp-p, 75Ω Load

Input/Outputs

Mic / Line Inputs

Mic Level

Input Sensitivity.....1.2mV, 12KΩ
THD.....0.18%
S/N.....60dB A-WTD

Line Level

Input Sensitivity.....500mV, 12KΩ
THD.....0.01%
S/N 92dB A-WTD

Instrument Input

High Gain

Input Sensitivity.....10mV, 1MΩ
THD.....0.03%
S/N.....72dB A-WTD

Low Gain

Input Sensitivity.....500mV, 22KΩ
THD.....0.01%
S/N.....92dB A-WTD

AUX Input

Input Sensitivity.....500mV, 22KΩ
THD.....0.01%
S/N.....92dB A-WTD

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